Northern Illinois University

Request for Proposals

ISLE Learning Map and Assessment Applications

Exhibits

Contents:

Exhibit A:	ISLE Technology Development & Deployment Plan……	2
Exhibit B:	Learning Map Requirements……..	49
Exhibit C:	Assessment Application Requirements……	64
Exhibit D:	Unified Solution Requirements……..	78
Exhibit E:	ISLE Technical Specifications……..	79
Exhibit F:	Minimum Standards……	98
Exhibit G:	Responsiveness Elements……..	99
Exhibit H:	Pricing Format……	100
Exhibit I:	University Specific Terms and Conditions……..	101

Exhibit A

ISLE Phase 2 Development Plan

Illinois Shared Learning Environment Technology Development & Deployment Plan

February 2013 through June 2014

Plan Version 1.3 – May 17, 2013

Prepared by: Northern Illinois University

In collaboration with:

Illinois Department of Commerce and Economic Opportunity

Illinois State Board of Education

Illini Cloud Cooperative

Southern Illinois University – Center for Workforce Development

University of Illinois – National Center for Supercomputing Applications

Table of Contents

I. Introduction and Background 2

II. ISLE Phase 2 Plan Overview 4

III. Physical Infrastructure Plan 5

IV. Data Integration Plan 5

V. ISLE User Interface and Application Project Areas 7

A. Portal Project 8

B. Educator Project 10

C. Learner Project 13

VI. ISLE Business and Long-term Governance Plan 15

VII. ISLE Change Management and Professional Development 15

Attachment A ISLE Governance Diagram 17

Attachment B Phase 1 Activities Description 18

Attachment C ISLE Guidelines for Use of Capital Funds 20

Attachment D IlliniCloud Description 21

Attachment E Race to the Top School Districts (2010-11 Data) 22

Attachment F ISLE/inBloom Data Integration Pattern 24

Attachment G Dashboard Suite Preliminary Design 25

Attachment H Intervention Tracking Preliminary Design 31

Attachment I Content Discovery Preliminary Design and Vocabulary 32

Draft Content Discovery Vocabulary 34

Content Discovery Sample Pages and Design 35

Attachment J Content Tagging Preliminary Design 40

Attachment K Non-Digital Content Authoring Preliminary Design 41

Attachment L Career Planning Project Scopes 43

I. Introduction and Background

The Illinois Shared Learning Environment (ISLE) is an ambitious new state initiative that is developing a common technology platform to deliver tools, resources and content to educators and students to better personalize instruction and more closely meet the needs of the individual learner – from pre-K students through post-graduates and career seekers. The mission statement for ISLE, as adopted by the Illinois State Board of Education (ISBE) and the Illinois Department of Commerce and Economic Opportunity (DCEO) (the project's co-sponsors), is:

ISLE drives academic achievement and career success for all lifelong learners in Illinois by enabling personalized learning through open and accessible technologies.

ISLE serves as a critical technology platform for supporting many of the State's priority education and workforce development reforms and programs, including the State's Race to the Top plan, implementation of the Common Core State Standards, the Illinois Pathways Initiative, and the Race to the Top-Early Learning Challenge plan. This document sets forth the plan for ISLE's development through June 30, 2014. Parallel to the development activities described in this plan, various ISLE partners are engaged in planning and implementation activities for ISLE's long term governance and training and professional development, as referenced in Sections VII and VIII of this document.

The development of ISLE is being undertaken pursuant to an intergovernmental agreement among the project co-sponsors, ISBE and DCEO, and four project partners: University of Illinois—National Center for Supercomputing Applications (NCSA), the IlliniCloud cooperative, Southern Illinois University Center for Workforce Development (CWD), and Northern Illinois University – Illinois Interactive Report Card (IIRC). This intergovernmental agreement addresses the roles of the various parties and establishes a governance structure for the development phase. Additional project management and consulting support has been provided by the Civic Consulting Alliance and Northern Illinois University's Office of Education System Innovation. Collectively, this group constitutes the "ISLE project team." Finally, the project sponsors have appointed an advisory committee that includes a diverse group of stakeholders across the education and workforce development spectrum. The overall governance structure for ISLE is depicted on **Attachment A**.

ISLE is leveraging technology tools and standards developed by inBloom, Inc. Previously known as The Shared Learning Collaborative, inBloom, Inc. is a nonprofit organization working to make personalized learning a reality for every U.S. student. inBloom provides technology services that allow states and public school districts to better integrate student data and learning applications to support sustainable, cost-effective personalized learning. inBloom is funded with initial philanthropic support from the Bill & Melinda Gates Foundation and Carnegie Corporation of New York. Working with the Council of Chief State School Officers (CCSSO), inBloom has formed a collaborative of nine states to pilot its technology, with Illinois serving as a lead among the pilot states. District 87 and Unit 5 are Illinois' pilot districts for inBloom's technologies, and will also serve as the pilot sites for ISLE.

Funding for ISLE has been provided through $12 million in Illinois Jobs Now capital bill funds committed by DCEO. The initial phase of capital funding was provided to the University of Illinois through a grant agreement dated September 20, 2012, that funded project activities dating back to July 1, 2012. Since July 1, 2012, the ISLE project team has been engaged in extensive planning, outreach, and design activities, as further described on **Attachment B** (referred to in this plan as "Phase 1" activities). The Phase 1 activities have laid the necessary groundwork to achieve the following critical ISLE roll-out objectives for Phase 2:

- Pilot implementation of ISLE and inBloom technologies in District 87 and Unit 5 in 2nd and 3rd quarters, 2013;

- Integrate the necessary data from 35 school districts participating in the Illinois Race to the Top (RttT) application to populate the ISLE and inBloom data stores during the course of the 2013-14 school year;
- Initially roll-out ISLE and inBloom technologies to the 35 RttT districts in 1st and 2nd quarters, 2014, with full implementation the next fall;
- Launch broadly accessible ISLE-hosted applications to support Common Core implementation and the Illinois Pathways Initiative during the course of the 2013-14 school year and beyond; and
- Establish a partnership between the ISLE project team and the Illinois Student Assistance Commission (ISAC) to provide a learner-facing application suite made available during the 2014-15 school year and beyond.

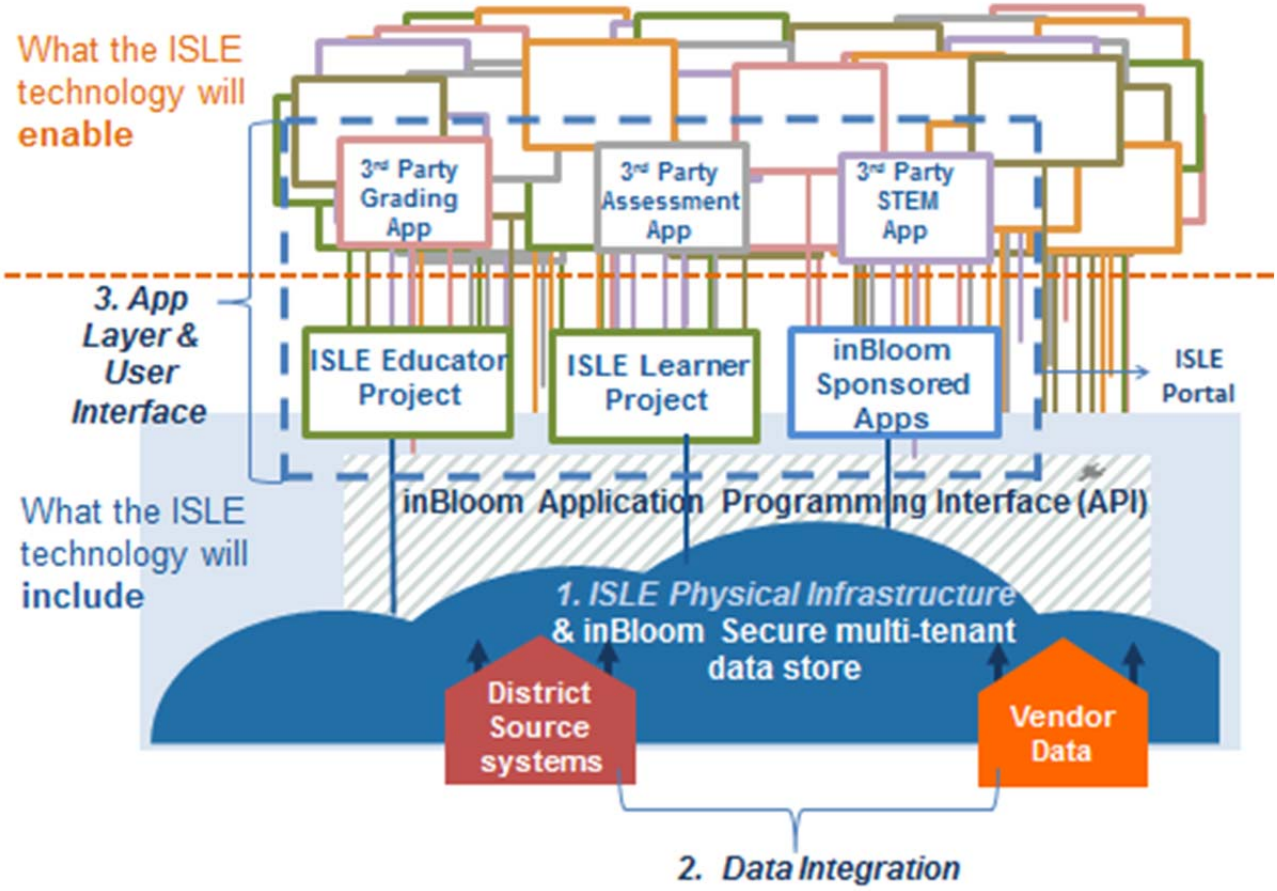
The second (and final) phase of capital funding will be provided through a grant agreement with Northern Illinois University. This plan describes the overall development and implementation plan for ISLE's technology infrastructure and applications from February 2013 through June 30, 2014 (referred to as "Phase 2"), which will include the achievement of the roll-out objectives described above. The Phase 2 investments will result in tangible hardware and software assets supporting ongoing ISLE's ongoing production environment and data integration services, as well as the development of a number of user applications, including (i) an overall portal and user interface architecture, (ii) a coherent suite of applications primarily targeted to PreK – grade 12 teachers and principals, and (iii) a coherent suite of applications primarily targeted to students and adults supporting students in their learning experiences.

The ISLE project team has sought to establish an ambitious, yet achievable, scope for Phase 2 focused on support for a few key State reform objectives, deep integration with a limited number of school districts, and support for STEM-related applications that will be utilized by a broad range of stakeholders. Upon the conclusion of Phase 2, the project sponsors intend that additional phases of ISLE will further extend this platform to other Illinois user communities, with a focus on needs in postsecondary education, workforce development, and early learning programs. In addition, the project sponsors intend to broaden school district data integration with ISLE beyond the 35 RttT districts; potentially including a large majority of Illinois school districts. Therefore, while the Phase 2 objectives are limited in scope, the ISLE system architecture developed in Phase 2 must support the intended expansion of ISLE in subsequent phases.

II. ISLE Phase 2 Plan Overview

As depicted in the diagram below, ISLE's Phase 2 plan will be carried out in three primary project areas:

1. **Physical Infrastructure:** Cloud-hosted services to support the testing and production environment for ISLE
2. **Data Integration:** Automating and validating data needed to support critical ISLE applications
3. **User Interface and Applications:** Software services and applications for the intended ISLE user community



The plan for each project area is further described in the following sections of this Plan. All Phase 2 expenditures will comply with the ISLE guidelines for the use of capital funds that have been approved by the Governor's Office of Management and Budget set forth on **Attachment C**.

III. Physical Infrastructure Plan

Through the Phase 2 project period, ISLE will rely on the IlliniCloud to provide the necessary testing and production environment for the project's deployment. The IlliniCloud's services and overall system architecture are described on **Attachment D**. ISLE's Phase 2 budget includes sufficient purchased capacity from the IlliniCloud to meet all anticipated project needs through June 30, 2014, as well as storage and networking enhancements to the IlliniCloud that will support ISLE's deployment beyond Phase 2. By the end of first quarter 2014, with a more refined understanding of ISLE's overall production environment needs, the ISLE project team will develop a long-term physical infrastructure plan for ISLE based on one of three options (or a combination of these options): (1) continued purchase of production environment capacity from the IlliniCloud; (2) development of an ISLE-dedicated physical architecture within the IlliniCloud; or (3) purchase of production environment capacity from a third party commercial cloud provider (which may be facilitated through the IlliniCloud). ISLE's Phase 2 budget includes a physical infrastructure reserve line item that will fund partial implementation of a production environment after June 30, 2014.

In addition, the Phase 2 budget includes the establishment of a development environment jointly hosted by IlliniCloud and NCSA for application development and testing relating to ISLE's application layer and user interface. This development and testing environment will be available to the ISLE project participants in May or June 2013.

This plan's approach to ISLE's physical infrastructure will provide a minimal testing and production environment appropriate for the initial launch of ISLE, while maintaining flexibility with respect to future investments. ISBE and DCEO also believe that partnering with IlliniCloud for ISLE's physical infrastructure deployment will lead to improved adoption rates from the ISLE user community, particularly given the sensitivities surrounding student data.

The persistent assets for the State resulting from the Phase 2 physical infrastructure deployment include:

- Storage and networking enhancements to the IlliniCloud supporting the ongoing expansion of ISLE
- A development environment jointly hosted by IlliniCloud and NCSA
- The long-term physical infrastructure plan for ISLE will likely result in additional hardware investments for ongoing production needs

IV. Data Integration Plan

ISLE's data integration plan will provide for automated data collections and provisioning of an ISLE operational data store (ODS) for data validation and stage, which will then provide data to the inBloom data store for data interoperability with applications. ISLE's data integration activities supported through capital funds are limited to automating the collection and validation of the required data for the 35 school districts participating in the State's RttT plan, as identified on **Attachment E** (which includes districts with large student populations such as Chicago Public Schools, Peoria Public Schools, and East St. Louis School District 189). Depending on capacity, funding availability, and district interest, the ISLE project team may permit participation in ISLE by other school districts beyond the RttT districts, provided those districts are prepared to participate in ISLE on a similar timeline as the RttT districts and, if appropriate, pay for their direct costs that cannot be funded

through the ISLE capital budget. The RttT districts and other initial adopters are referred to in this Plan as the "Phase 2 Districts."

The goals for the data integration plan are to automate the data collection activities for students and teachers from the Phase 2 districts, validate that data, transform the data to the appropriate format, and transmit that data in real-time to the ISLE ODS and then into the inBloom datastore. The ISLE/inBloom data integration pattern is depicted on **Attachment F**. To support implementation of this project, IlliniCloud has utilized Phase 1 funds to contract with CPSI, Ltd. (an Illinois-based company with nationwide expertise) to perform three phases of work:

1. Data Discovery and Documentation: These activities are currently being performed for all 35 RttT school districts. The result of this documentation may identify opportunities to improve data integration strategies as ISLE expands beyond Phase 2.

2. Data Integration and Services: These activities will include:
    a. Install and configure a local SIF agent or the xDUA or xDMover (each, a CPSI data transfer tool) at each district for data collection. Only the districts electing to use the CPSI toolset will perform these activities.
    b. IlliniCloud infrastructure software deployment.
    c. IIRC provisioning local assessments for RTTT districts to the ISLE ODS server.

    Data integration services for the Phase 2 Districts are scheduled to be completed by June 30, 2013.

3. Data integration maintenance: The CPSI contract includes three years of pre-purchased maintenance for the data integration tools.

In addition, the Phase 1 budget includes the installation of hardware within the IlliniCloud to facilitate the overall project data integration goals, including:

i. Dedicated high speed storage to be used for collecting district data, validating that data, storing validated data into the ISLE ODS, and hosting of the error/reporting portal for the participating districts;
ii. Compute resources will be installed to run the ZIS (Zone integration Server), Web services and reporting front end to be used by the districts; and
iii. External connectivity and networking will be augmented to handle the increase in traffic in the IlliniCloud.

This hardware investment is being made to address ISLE needs beyond Phase 2, supporting at least 400 school districts, with the ability to economically scale to the entire state. Additionally, other ISLE project participants will be able to take advantage of these resources in other areas such as data integration at ISBE, early childhood data collection, and postsecondary and workforce data collection.

As part of Phase 2, NCSA, with input from the other partners, will prepare and deliver recommendations for data collection and integration services relating to ISLE use cases for postsecondary and workforce development programs. These recommendations will address:

- Recommended data integration strategies for postsecondary and workforce development programs;
- Any changes to the inBloom/Ed-Fi data model to extend or modify the data model and data structures to incorporate needs beyond K-12; and
- The requirements for a "student vault" infrastructure aligned with the Learner Project.

To the extent feasible, these recommendations should leverage the investment in the ISLE ODS. These recommendations will be delivered by the end of 1st quarter 2014.

The persistent assets for the State resulting from the Phase 2 data integration plan include:

- Installation and configuration of software at the RttT school districts to facilitate data integration activities
- IlliniCloud software deployment to facilitate data transfer between school districts and the ISLE ODS
- Installation of hardware within the IlliniCloud to facilitate data integration goals, including storage, compute resources, and connectivity and networking augmentation

V. ISLE User Interface and Application Project Areas

The ISLE Phase 2 plan for user interface and application investments includes three separate project spaces:

1. **ISLE Portal, User Authentication, and User Interface Solution (the "Portal Project"):** The overarching portal, user authentication, and user interface system architecture that will allow for the presentation of applications from heterogeneous backend systems in a unified, easy-to-navigate front end. The Portal Project is intended to provide the basic user interface architecture for both the Educator Project and Learner Project, as described below.

2. **The Educator Project**: The user applications initially targeted to PreK – 12 teachers and administrators. As described in Section V.C and **Attachment G**, many of these applications will also be available for other user communities, including students, parents, and STEM Learning Exchange partners.

3. **The Learner Project:** The user applications targeted for students and their families to support student learning and career development. As further described in Section V.C, the Learner Project will leverage many of the applications developed as part of the Educator Project, and also include applications available for use by STEM Learning Exchange partners.

The persistent assets for the State resulting from the Phase 2 user interface and application investments include:

- A coherent portal and interface architecture for users to access resources through ISLE through a Single Sign-On environment
- A robust array of applications made freely available to ISLE end-users, including teachers, principals, parents, students, and other partners supporting the State's STEM and workforce development objectives
- An open system architecture that enables and empowers users to access applications available through their district, the vendor community, or the open source community

A. Portal Project

The Portal Project will provide a unified "front end" for ISLE through which multiple types of applications, from a variety of "backend" systems, can be used.

Levels of User Access

The ISLE Portal Project will establish an interface for four levels of user access:

- **Level 1—Anonymous User Access, through the ISLE website:** www.ilsharedlearning.org. The website will provide general public access to information on ISLE and applications that do not require the establishment of a user account or need integrated data.
- **Level 2—Self-declared Identity account access:** A Level 2 user will set up his or her own account with no processes to confirm the user's identity or organizational role. Level 2 users will have read-only, save-only, and download-only access.
- **Level 3—Verified Identity account access:** A Level 3 user will set up his or her own account and will be verified as a legitimate member of an organization or group. Level 3 users will have all access for Levels 1 and 2, plus the ability to comment, publish, and participate in collaboration communities. Level 3 users will not have access to personally identifiable information contained within the inBloom data store.
- **Level 4—Role-based Access to PII:** Mainly to educational institution administrators, teachers, principals, students, and families. Level 4 users will have access for Levels 1-3, plus access to personally identifiable information (PII) based on the user's appropriate role within an organization and in

Examples of the various user types are described in the following vignettes:

User Level	Examples of ISLE Usage
1	Joan, a high school math teacher, Sheila, an HR Director at an Illinois-based manufacturing company, and Elsa, a 9th grade student at an Illinois school district, hear about ISLE at a manufacturing expo. Afterward, they all access the ISLE website for basic information on ISLE. They are able to access examples of "learning maps" and run some basic content queries using a publicly accessible version of the content discovery tools.
2	• Joan, the high school math teacher, establishes an ISLE account, with user name and password, which requires her to self-identify as a teacher at an Illinois school district. With the account set up, she can author an assessment using the ISLE authoring tool and save that to her own account, but is not able to publish it to the broader ISLE community. • Sheila, the HR Director, establishes an ISLE account, which requires her to identify as a business partner for the Manufacturing STEM Learning Exchange. With the account set up, she can search for manufacturing education resources using the content discovery tool and can save those searches. • Elsa, the 9th grade student, establishes an ISLE account, with user name and password. She is able to create and save a personalized learning plan using ISLE tools, and explore career opportunities and information in the field of manufacturing (her career area of interest).
3	• Joan's identity as a high school math teacher has been verified by her school district. Now, she can upload and share the Common Core-aligned assessments she has created with the broader ISLE community. She can join a statewide collaboration community for

User Level	Examples of ISLE Usage
	high school math educators. • Sheila's identity has been verified by the Lead Entity for the Manufacturing Learning Exchange. Now, she can upload work-based learning assessments that have been created by her company, and list the availability of her company's resources on the STEM Resource Locator and Scheduler application. • Elsa's identity has been verified by her school district. Now, her Personalized Learning Plan reveals courses within a Manufacturing Program of Study available through her high school and community college district.
4	• Joan's school district has now integrated its data with ISLE. Now, she can administer and score the assessments she has created using ISLE applications, and the performance information from those assessments is incorporated into performance dashboards and learning maps for her students. • Sheila has been approved by Elsa's school district to administer a summer work-based learning experience for Elsa. Sheila can upload information on Elsa's work-based learning performance to Elsa's learning map. Sheila is authorized to have certain views onto Elsa's school performance information and is able to have web-based conferences with Elsa to discuss her Personalized Learning Plan. • Elsa's school district has now integrated with ISLE. Her Personalized Learning Plan incorporates her grades and assessment performance information, and indicates to Elsa whether or not she is "on track" to successfully progress through her manufacturing program of study.

Portal Project System Architecture

The technical requirements for the Portal Project system architecture are described in the Request for Proposals for ISLE Learning Map and Assessment Applications issued by NIU.The Portal Project system architecture will address the following overall usability and user interface requirements:

- The Portal Project will be designed to provide a unified presentation of portlets from various backend systems using a common interface and protocol that is platform and development tools independent.
- Event driven communication will allow user interaction in one portlet to drive updates in other portlets (thereby permitting data to pass between portlets).
- The Portal Project will include user interface (UI) features that provide landing pages, click-through user navigation and interface features, and portlet display and design standards. The UI features will provide a unifying interface experience for users as they access various application portlets accessible through ISLE so that the usage of the overall ISLE environment is efficient, intuitive, relevant, and comprehensible.
- The priority ISLE applications, including the dashboard suite, learning maps, and content discovery applications, will be integrated into the Portal Project as unifying features that a user can navigate to and from at various locations within an ISLE usage session.
- The Portal Project will allow school districts to customize the "skin" of the portal and modify page layouts to address district-specific preferences.

B. Educator Project

The overall objective of the Educator Project is to provide a coherent suite of applications that supports PreK – grade 12 teachers and principals to deliver instruction that is personalized, aligned to relevant standards (including Common Core), and prepares students for transitions to postsecondary education and the workforce. Phase 2 funding will be utilized to provide access to a baseline set of applications for no charge. Users will also be empowered to incorporate into their personalized home-page other applications available through their district, the vendor community, or the open source community.

Phase 2 Educator Project applications were selected by the ISLE project team based upon the following priorities and processes:

1. **District 87 Application Priorities:** The ISLE project team prioritized applications identified by District 87, as the inBloom pilot site, needed to address core instructional needs for a successful pilot implementation.
2. **Focus Group and Survey Priorities:** The ISLE project team prioritized applications identified or affirmed through the ISLE focus group and survey processes as necessary to address critical use cases for the overall ISLE vision.
3. **STEM Learning Exchange Priorities:** The ISLE project team prioritized applications identified by the lead entities for the STEM Learning Exchanges as key to delivering supports for the Illinois Pathways Initiative.

The Educator Project applications to be developed using Phase 2 funding are described in the table below.

Application	Development or Sourcing Strategy
1. Dashboard Suite: Comprehensive suite of student performance reports, including a multi-functional Teacher Dashboard, Principal Dashboard, District Administrator Dashboard, and Content Specialist Dashboard, each with custom links to instructional resources, student profiles, assessment rosters, reports, and forms for attendance, RtI, Special Education, and others. See **Attachment H** for preliminary dashboard designs.	IIRC to develop using internal development resources. Fully funded through IIRC Phase 2 budget.
2. Intervention Tracking: Tools and mechanisms for tracking interventions for teachers to recognize what is most impactful on student achievement and outcomes. This tool will include special education as well as learning performance and RtI tracking tools for teachers and principals. See **Attachment I** for preliminary intervention tracking screen designs.	IIRC to develop using internal development resources. Fully funded through IIRC Phase 2 budget.
3. Learning Maps: Learning maps will show key concepts by content and grade-level to make personalized instruction decisions, developed with assistance from content specialists experienced in teacher training and instruction. Initially, the learning maps will communicate what standards are and what standards mean, and provide a direct connection to tagged content ("Unlit Learning Maps"). As a second phase, the learning maps will be connected to achievement data, using multiple assessment types ("Lit Learning Maps"). ISLE will provide a base set of learning maps in ELA/Literacy, Math,	IIRC will develop Unlit Learning Maps for ELA/Literacy, Math, and Science using internal development resources and teams of instructors and context experts. These may be developed as part of a multi-state effort. CWD will develop Unlit Learning Maps for select STEM cluster areas, including maps that integrate Next Generation Science Standards, using internal development resources and teams of

Application	Development or Sourcing Strategy
Science, and STEM cluster areas that districts can use as a starting point for creation of their own personalized learning maps. The requirements for Learning Maps are defined in the Request for Proposals for ISLE Learning Map and Assessment Applications issued by NIU.	instructors and context experts. IIRC, with input from CWD, to develop a plan for development or sourcing of Lit Learning Maps. Unlit Learning Map development is fully funded through IIRC and CWD Phase 2 Budgets. Lit Learning Maps are to be developed by a contractor procured through an NIU RFP, funded through the Phase 2 budget.
4. Assessment Authoring and Delivery: Item bank and tools for teachers to create, administer, and score assessments that are based on content that is aligned to standards. The requirements for Learning Maps are defined in the Request for Proposals for ISLE Learning Map and Assessment Applications issued by NIU.	IIRC to oversee sourcing of vendor to develop this application, funded through the Phase 2 budget.
5. Content Tagging and Discovery: Tools educators can use to tag and search content based on standards or other classifications (such as STEM clusters), including search, publishing tools, standard alignment tools, standards rigor assessment, recommendation engine, like/dislike and commenting features, and usage integration. See **Attachment K** for preliminary content discovery vocabulary and design. See **Attachment K** for preliminary content tagging design.	CWD, with input from IIRC, to develop using internal development resources. Fully funded through CWD Phase 2 budget.
6. Content Repository: ISLE will use an open source content repository application and customize it to support the upload of digital objects to integrate with the content discovery and learning map applications.	CWD, with input from IIRC and NCSA, to develop using internal development resources. Fully funded through CWD Phase 2 budget.
7. Collaboration Tools: Tools for educators and other partners (such as STEM Learning Exchange participants) to collaborate on instructional activities and implementation of STEM Programs of Study.	CWD, with input from IIRC, to develop a social media integration approach that utilizes open market solutions. Fully funded through IIRC and CWD Phase 2 budgets.
8. Career Exploration and Preparation: Applications and tools to support educators with career exploration activities for students, and to prepare students for careers in particular pathways. These will connect to resources aggregated through a STEM Learning Exchange and/or in that particular community.	CWD to develop using internal resources, integrating with other State resources such as What's Next Illinois, the IDES Career Information System, Illinois workNet, and the Manufacturing Innovation Regional website. Fully funded through CWD Phase 2 budget.
9. STEM Resource Locator and Scheduler: Application for educators to locate and schedule STEM resources made available through partners within the STEM Learning Exchanges (e.g., equipment, lab space, etc.).	CWD to develop using internal development resources. Fully funded through CWD Phase 2 budget.
10. Pathways News and Update Calendar: Information for educators and other partners to obtain information on Illinois Pathways.	CWD to develop using internal development resources. Fully funded through CWD Phase 2 budget.

The Educator Project applications will be available to the various types of ISLE users, as described in Section V.A of this Plan, as follows:

Level 1	Level 2	Level 3	Level 4
• Examples of Unlit Learning Maps • Content Discovery • Pathways News and Update Calendar	• Level 1 applications, but also permitting customization and saved searches • Unlit Learning Maps search • Content Repository search • The assessment item bank search features and authoring and save features of the Assessment Authoring and Delivery Application • Resources within Career Exploration and Preparation requiring customization but no student-level data access	• All Level 2 applications • Collaboration Tools • Unlit Learning Map upload and sharing • Content Repository upload and sharing • The assessment sharing features of the Assessment Authoring and Delivery Application • STEM Resource Locator and Scheduler	• All Basic applications • Dashboard Suite • Intervention Tracker • Lit Learning Maps • The assessment delivery and scoring features of the Assessment Authoring and Delivery Application • Resources within Career Exploration and Preparation requiring access to student-level data

Based on the needs of District 87 identified during the design phase and the timeline for the Race to the Top grant, the Educator Project will be staged in multiple releases, as described in the table on the following pages.

Educator Project Release v. 0.1 (testing and focus groups in District 87, Unit 5, and RTTT Districts)	
Target Date	April - June, 2013
Objective	Testing of ISLE/inBloom technologies with District 87, Unit 5, and select RTTT Districts to provide proof of concept and obtain feedback from intended users
Users	Teachers and principals in District 87, Unit 5, and other select RTTT Districts
Applications Deployed	• Content Tagging and Discovery (tested with group of D87 teachers on April 4, 2013; intend to schedule D87 tagging sessions during May/June) • Dashboard Suite & Intervention Tracking: Testing and focus group session to be scheduled with District 87 in June 2013 • ISBE to coordinate testing and feedback sessions with Unit 5 and other select RTTT districts
Educator Project Release v. 1.0 (Alpha Release to District 87, Unit 5, and STEM Learning Exchanges)	
Target Date	August 15, 2013
Objective	Release stable versions of applications to a limited number of schools in District 87 and Unit 5; load larger scale datasets; start stress testing system; begin to implement broader district training plan; releasealpha version of an initial set of ISLE applications supporting STEM Learning Exchanges.
Users	Teachers and principals in District 87 and Unit 5 STEM Learning Exchange partners
Applications	Alpha (stable) versions of:

Deployed	• Dashboard Suite • Intervention Tracking • Content Tagging and Discovery • STEM Resource Locator and Scheduler • Pathways News and Update Calendar Example of Unlit Learning Map for 5th Grade subject area
Educator Project Release v. 1.1 (Release to RttT Early Adopters)	
Target Date	November 15, 2013
Objective	Release the alpha version of applications deployed for District 87 and Unit 5 to an additional 2-3 RttT Districts for piloting in a limited number of schools; initial testing of other applications
Users	Teachers and principals in the additional 2-3 RttT districts
Applications Deployed	All applications deployed in 1.0 Initial testing of the following applications: • Learning Maps (both Unlit and Lit) • Assessment Authoring and Delivery • Content Repository • Collaboration Tools • Career Exploration and Preparation
Educator Project Release v. 2.0 (Release to all RttT Districts)	
Target Date	January 31, 2014
Objective	Provide beta version of applications deployed in release 1.1 to all RttT Districts; enable piloting at a few schools within these districts; enable the commencement of training activities; provide alpha versions of additional applications critical for implementation of Common Core State Standards and STEM programs of study
Users	STEM Learning Exchange partners Teachers and principals in the RttT districts
Applications Deployed	Beta version of all 1.0 applications Alpha version of the following applications: • Learning Maps (both Unlit and Lit) • Assessment Authoring and Delivery • Content Repository • Collaboration Tools • Career Exploration and Preparation
Educator Project Release v. 2.1 (Full Deployment, Final Phase 2 Release)	
Target Date	May 30, 2014
Objective	Further refine 2.0 applications to enable training and robust implementation in RttT districts
Users	Same as 2.0
Applications Deployed	Full deployment version of all 2.0 applications

C. Learner Project

The overall objective of the Learner Project is to provide a coherent, easy to navigate, user interface and suite of applications that enable students to manage their own education and career plans, and support parents and other adults (such as mentors, career counselors, or participants in the STEM Learning Exchanges) to support students' progress on their personalized learning pathway. Coincident with these efforts, DCEO is

commissioning a series of projects to document and envision the future of career planning tools. More details about these projects are shown on **Attachment L**.

To develop and sustain the Learner Project, the ISLE co-sponsors are entering into a partnership with the Illinois Student Assistance Commission (ISAC), which currently funds the "What's Next Illinois" website and personalized planning tool: www.whatsnextillinois.org. What's Next Illinois provides freely available resources for Illinois students to engage in planning for high school, careers, college, and financial aid.

The partnership between the ISLE project sponsors and ISAC for the Learner Project includes the following commitments and expectations:

1. ISLE and ISAC will launch a redesigned learner resource and planning site that will be available to students commencing in the 14-15 school year. This new site will include ISLE-developed applications and features, ISAC funded applications and features, and empower users to incorporate other applications available through the student's district, the vendor community, or the open source community. ISLE and ISAC will also engage with the Illinois Department of Employment Security (IDES) to appropriately incorporate IDES' career exploration and preparation applications.

2. The ISLE project team and ISAC will seek to deploy an initial release in first quarter 2014 that allows for testing and training on the site by the Phase 2 districts.

3. The ISLE Portal Project will establish the common interface and navigation experience for learners. Generally, the ISLE project team will provide technical expertise for the development of the Learner Project portal, integrated SSO services, and user authentication services. The ISLE project team will work cooperatively with ISAC and its vendor to design and deploy the user interface and navigation experience for the Learner Project.

4. ISLE, through the IlliniCloud, will provide a test environment and production environment for Learner Project applications. The ISLE ODS will provide student-level data needed for Learner Project applications (although ISAC may support other data integration approaches that compliment ISLE's data integration services).

5. IIRC and CWD, through internal resources included within its Phase 2 ISLE budget, will seek to develop the following applications described as part of the Educator Project so that they will also be accessible to learners through the Learner Project:
    a. Unlit Learning Maps
    b. Content Discovery
    c. Content Repository
    d. Career Exploration and Preparation
    e. Collaboration Tools
    f. STEM Resource Locator and Scheduler
    g. Pathways News and Updates Calendar

6. In addition to the applications developed by CWD, the ISLE Phase 2 budget includes a Learner Project Reserve that will be utilized for the development of other applications for the Learner Project, to be agreed-upon jointly between the ISLE project co-sponsors and ISAC. Specifically, the following applications will be explored for inclusion:
    a. Learner-facing, Lit Learning Maps
    b. Work-based Learning Opportunity Request and Approval
    c. Student and Adult Project-based Learning Collaboration

d. Virtual Mentor
e. Digital Badge Technologies

7. ISAC will enable What's Next Illinois applications and resources to be available through the portal established for the Learner Project, including:
    a. Postsecondary Exploration
    b. Financial Aid Planning
    c. Resume Builder

    ISAC and the ISLE project team will explore opportunities to enhance and expand these tools as part of the redesigned learner resource and planning site.

8. ISAC and the ISLE project team will incorporate within the Learner Project a comprehensive Personalized Learning Plan toolset that enables students and families to define and manage a personalized pathway through high school to postsecondary and career. The Personalized Learning Plan will be designed to achieve the following objectives:
    - Enables adult mentors (*e.g.*, community-based workforce investment boards, industry partners, university students, teachers and other volunteers) to help students develop and pursue the plan;
    - Is portable both horizontally (as students move from district to district) and vertically (as students move from middle to high school, and from high school to postsecondary and the workforce);
    - Incorporates life-wide learning (such as student involvement in outside of school activities); and
    - Is updated as part of a continuous process (i.e., not a "one time" event).

9. Following the Phase 2 period, ISAC will support maintenance, administration, and user training associated with the Learner Project.

The ISLE project team and ISAC will be developing a detailed implementation plan for the Learner project in the second and third quarters of 2013. If necessary, the plan for the Learner Project set forth in this Section will be amended to reflect the outcome of that detailed implementation plan process.

VI. ISLE Business and Long-term Governance Plan

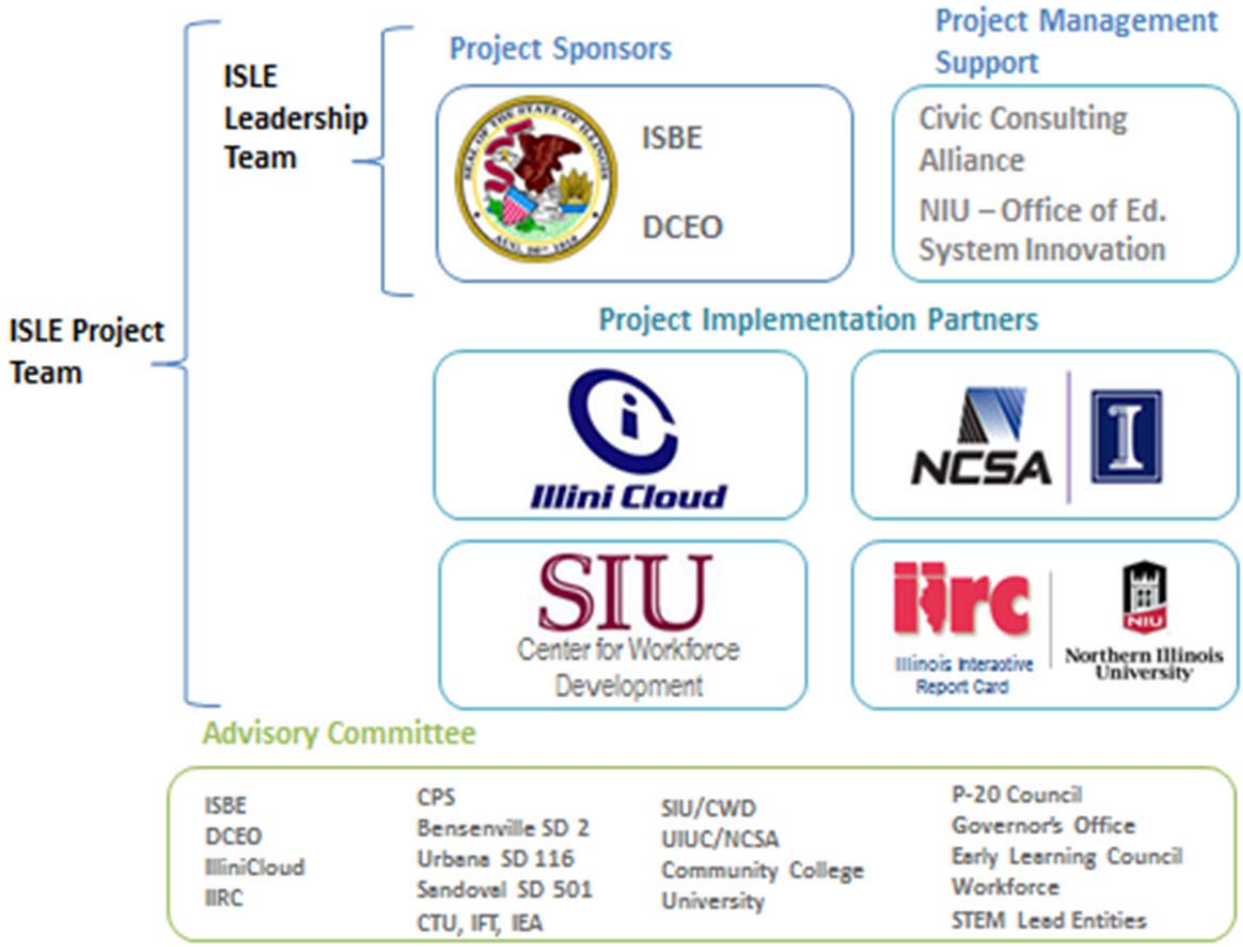
The ISLE Leadership Team is in the process of developing a business and long-term governance plan for ISLE activities beyond Phase 2. An initial draft of this plan will be completed by no later than May 31, 2013. This plan will address a long-term recommended organizational and governance structure for ISLE, a proposed staffing structure for the ISLE organization, the scope of responsibilities to be carried out by the ISLE organization, and financial projections.

VII. ISLE Change Management and Professional Development

The ISLE Leadership Team, in coordination with ISBE's professional development support staff, is in the process of developing a change management and professional development plan for the rollout of ISLE in the Phase 2 Districts. This plan will be implemented with the Phase 2 Districts during the 2013-14 school year, to support a robust ISLE implementation in the 2014-15 school year. In addition, various application components will have web-based training modules to support their utilization.

Attachment A
ISLE Governance Diagram

=



Attachment B
Phase I Activities Description

Since July 1, 2012, the ISLE team has been engaged in the following planning, outreach, and design activities across the various project reas.

ISLE Physical Infrastructure: The ISLE team has investigated various physical infrastructure options for Phase 2 activities and beyond. This investigation has resulted in the approach described in Section III of this Plan.

Data Integration: The ISLE team has determined the data transfer solution for the Phase 2 Districts and identified the software/hardware needs for desired solution. Data integration activities have commenced for the Phase 2 Districts.

Application Layer & User Interface: The ISLE team has:

- Leveraged the inBloom analysis of application scenarios and application deployments to determine suitability for incorporation into the ISLE application suite.
- Defined the scope of applications for investigation and responsibility between IIRC and CWD (the ISLE application team partners).
- Issued a Request for Information (RFI) to obtain input from the vendor community, with detailed responses from 17 different vendors.
- As further detailed below, engaged in a comprehensive stakeholder feedback effort, which included:
    1. Online surveys;
    2. Regional customer focus group sessions;
    3. STEM Learning Exchange overview session and online survey; and
    4. Social media.
- Developed specifications for a series of initial applications for ISLE's Phase 2 launch.

ISLE Online Stakeholders Survey

IIRC and CWD partnered to administer four ISLE online surveys targeted to the following audiences: (1) educator and education administrators; (2) students; (3) parents/guardians; and (4) industry partners including employers and workforce development program staff. The goal of the surveys was to provide baseline information on the technology usage of ISLE stakeholders and gather preliminary data on their needs, priorities, and requirements. Between October 16 and November 27, 2012, 1503 responses were collected. The detailed survey findings are available at http://www.ilpathways.com/ISLEPlanning.

Regional Focus Groups

Between November 13 and October 19, 2012, IIRC and CWD jointly administered six regional customer focus group sessions around the State, involving 218 participants. The regional locations were selected to ensure input from large, mid-sized, and rural districts from across the state. Participants included P-20 educators, students, parents, career and technical education programs, workforce development programs, and industry partners. The focus groups resulted in a large number of use cases that has informed the Phase 2 application prioritization process.

Feedback themes from the focus groups included:

- Participants grasped the importance of learning maps and are anxious to see them utilized as a focal point of ISLE.
- Participants want a robust dashboard capability for ISLE that cuts across platforms (laptop, tablet, phone, etc.) and function (searching, access to social media, etc.).
- Participants want direct access to assessment data of all types and levels, with dramatically reduced lag time between assessment and data availability.
- Participants want education resource searching tools which include mechanisms to determine validity and alignment to standards.
- Participants place a high value on tools that provide realistic information about career expectations and skill requirements, that can provide mechanisms for integrating that information into curricula, and that can be utilized beginning in middle school (if not earlier).
- Participants are highly interested in tools that will allow flexibility and individuation of study paths for students (and parents), but which also enable tracking and continuous improvement of core study paths for teachers and administrators.

The detailed focus group findings are available at http://www.ilpathways.com/ISLEPlanning.

STEM Learning Exchange Feedback

Each of the lead entities for the STEM Learning Exchanges received a detailed briefing on ISLE at a session held in Chicago on October 11, 2012 and completed an online survey to identify their priorities for applications. The information provided by the lead entities identified shared needs across the Learning Exchanges, and priorities for ISLE application development. The detailed report on information provided by the STEM Learning Exchanges is available at http://www.ilpathways.com/ISLEPlanning.

Attachment C
ISLE Guidelines for Use of Capital Funds

I. Allowable

A. Hardware

- Must confer ownership to a Project Partner for the benefit of ISLE
- The item must have a useful life of at least four (4) years
- Maintenance agreements purchased as part of the original acquisition are permissible, for up to three (3) years

B. Software

1. Development and Design

- Permissible for contractual and personnel costs related to the initial deployment of ISLE for a particular user community (e.g., Race to the Top districts, other school districts, early learning, higher education, etc.)

2. "Off the Shelf"

- The software must have an expected useful life of at least three (3) years and be related to the initial deployment of ISLE for a particular user community

3. Licenses

- Permissible for the purchase of a software license with a term of at least five (5) years, or for a perpetual license

C. Other Personnel and Contractual

- Must directly relate to initial deployment of ISLE for a particular user community
- Services pertaining to overall system development and deployment, hardware installation and deployment, software development and deployment, or data ingestion and integration
- Services for the purchase of training for ISBE, DCEO, or Project Partners that is necessary to bring staff to an acceptable level of competency on hardware/systems purchased or developed using bond fund

II. Not Allowable

- Training for school district staff and other users
- Maintenance, except as specifically allowed above

Attachment D
IlliniCloud Description

The IlliniCloud is a cloud computing organization developed by school district technology leaders with an understanding that shared resources are more secure, reliable, and economical. Its framework is built on the philosophy that as organizations transform their beliefs and practice around the use of data to inform instruction, school districts will discover they are more efficient and more effective in meeting student needs and preparing them for the future. Therefore, the collections and timely accessibility to well-organized, fully integrated easy-to-access "system" data for decision-making is a "must-have" for all educational leaders and instructional stakeholders. Since its inception in 2009, the IlliniCloud concept has continuously expanded its on-going, statewide efforts to promote low-cost, shared services. Using innovative technology available, the shared-data center concept first pursued by these technology leaders has been delivered as a cloud-computing model to over 300 districts.

The vision of the IlliniCloud is twofold: 1) to provide Illinois K-12 schools with services and access to a statewide infrastructure and a delivery system that allows for leveraging lower costs and sharing of applications, data storage and instructional technology resources to those schools; and, 2) to improve student performance by providing superior levels of technological services, access, and professional development that supports changes in instructional practices for educators, parents and community. In addition to services to K-12 districts, IlliniCloud also provides hosting services to Illinois workNet. The IlliniCloud currently provides:

- a standards-based, vendor neutral design and structure. This enables school districts to organize and leverage data collection, analysis and reporting costs into more meaningful formats and assist educators and parents in guiding students' learning to meet college and career needs.
- Three fully redundant and durable data centers in the state of Illinois. These are located in the northern part of the state at DeKalb, central part of the state at Bloomington, and the southern part of the state in Murphysboro.
- a Learning Performance Management System for 55 Illinois schools which will enable the classroom teacher to make timely, informed instructional decisions that directly impact all students' learning.
- an affordable design and structure that is elastic and will allow for scalable cloud computing services to all Illinois K-12 schools.
- a sustainable and scalable professional development model of practice built on a train-the-trainer model so that as the cloud infrastructure grows to support varied resources, educators at all levels are able to use those resources in meaningful ways including informed data-decision making.
- a cost-effective, secure technology infrastructure delivery and maintenance system. This will assist districts in addressing issues facing educators today concerning dwindling budgets.
- Offering districts the ability to corral the influx of new complex server-based technologies
- providing services to maintain the vital security of student, personnel and other types of school data and services
- Assist districts in handling the complexity of ever-changing technologies
- technology practices that have been time-tested and proven reliable and secure. A platform that affords equity between the "have" and "have-nots" in Illinois through low cost services and access to the cloud.
- A statewide regional model which offers a clear, flexible choice for districts through a state-of-the-art, efficient and secure technology implementation system that affords cost-relief to local districts and the state.
- A proven model of inherent trust built within the K-12 community that not only drives our adoption but also demonstrates a lower cost with better technology than offered by public cloud providers.

Attachment E

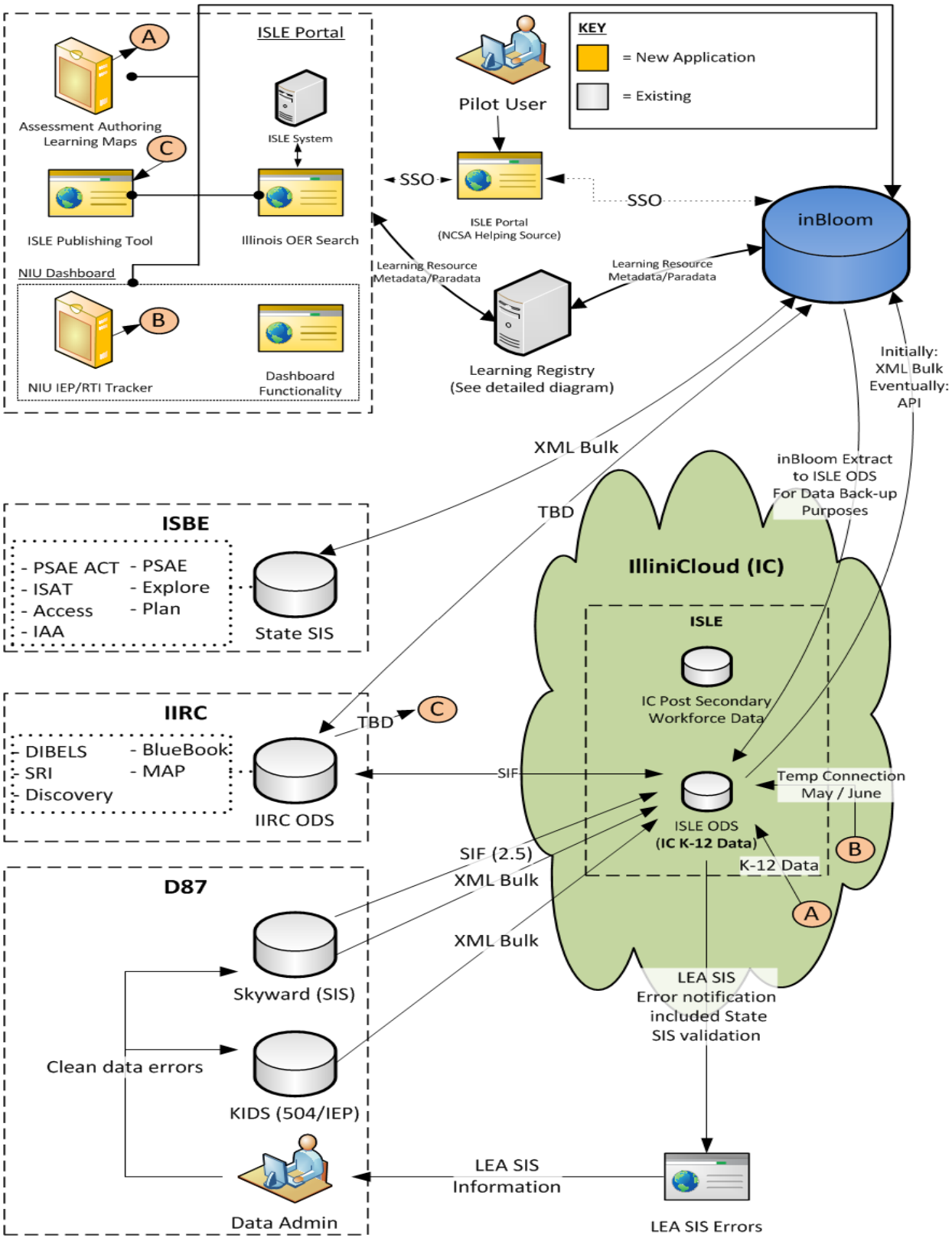
Race to the Top School Districts (2010-11 Data)

County	Reg/County/ Distr/Type	CAT	District Name	# of Schools	K-12 Total	Housed [PK-12]	Low Income
Rock Island	49081036002	2	Carbon Cliff-Barstow SD 36	1	267	272	214
Kankakee	32046259004	2	Pembroke CCSD 259	1	230	287	274
Jackson	30039140004	2	Unity Point CCSD 140	1	631	701	395
Cook	07016133002	2	Gen George Patton SD 133	2	376	408	310
Saint Clair	50082188022	2	Brooklyn UD 188	3	135	155	144
Cook	07016132002	2	Calumet Public SD 132	3	1007	1089	1038
Cook	07016160002	2	Country Club Hills SD 160	3	1381	1415	824
Richland	12080001026	2	East Richland CUSD 1	3	2044	2141	997
Carroll	08008308026	2	Eastland CUSD 308	3	649	698	257
Mason	38060189026	2	Illini Central CUSD 189	3	804	865	325
Cook	05016219017	2	Niles Twp CHSD 219	3	4621	4621	1431
Cook	07016227017	2	Rich Twp HSD 227	3	4014	4014	2887
Marion	13058501026	2	Sandoval CUSD 501	3	497	543	376
Richland	12080002026	2	West Richland CUSD 2	3	340	371	176
Pike	01075012026	2	Western CUSD 12	3	574	651	285
Whiteside	55098006026	2	Morrison CUSD 6	4	1089	1147	334
Wabash	20093348026	2	Wabash CUSD 348	4	1651	1735	722
Dupage	19022002002	2	Bensenville SD 2	5	2002	2081	1121
Champaign	09010137002	2	Rantoul City SD 137	5	1435	1485	1193
Winnebago	04101323026	2	Winnebago CUSD 323	5	1574	1629	335
Fulton	22029066025	2	Canton Union SD 66	6	2460	2574	1267
Williamson	21100002026	2	Marion CUSD 2	7	3730	3963	1814
Cook	07016162002	2	Matteson ESD 162	7	3101	3202	2268
Whiteside	55098005026	2	Sterling CUSD 5	7	3339	3421	1788
Cook	05016211017	2	Township HSD 211	7	11809	11809	2944
Lake	34049006002	2	Zion ESD 6	7	2440	2642	2195
DuPage	19022004002	2	Addison SD 4	8	4186	4218	2496
Cook	07016144002	2	Prairie-Hills ESD 144	8	2631	2755	2409
McLean	17064087025	2	Bloomington SD 87	9	5328	5526	2926
Champaign	09010116022	2	Urbana SD 116	9	3888	4206	2798
Stephenson	08089145022	2	Freeport SD 145	10	4007	4144	2579
Saint Clair	50082189022	2	East St Louis SD 189	21	7199	7469	4970
McLean	17064005026	2	McLean County USD 5	23	12674	12966	3524
Peoria	48072150025	2	Peoria SD 150	36	13530	14135	10719
Cook	15016299025	2	City of Chicago SD 299	675	379553	409255	340902
			Total	**901**	**485196**	**518593**	**399237**
			State Totals	**4,529**	**2,000,816**	**2,084,505**	**968,433**
			RttT LEAs; % of State	**20%**	**24%**	**25%**	**41%**
			Average number per LEA	22.525	12129.9	12964.83	9980.9

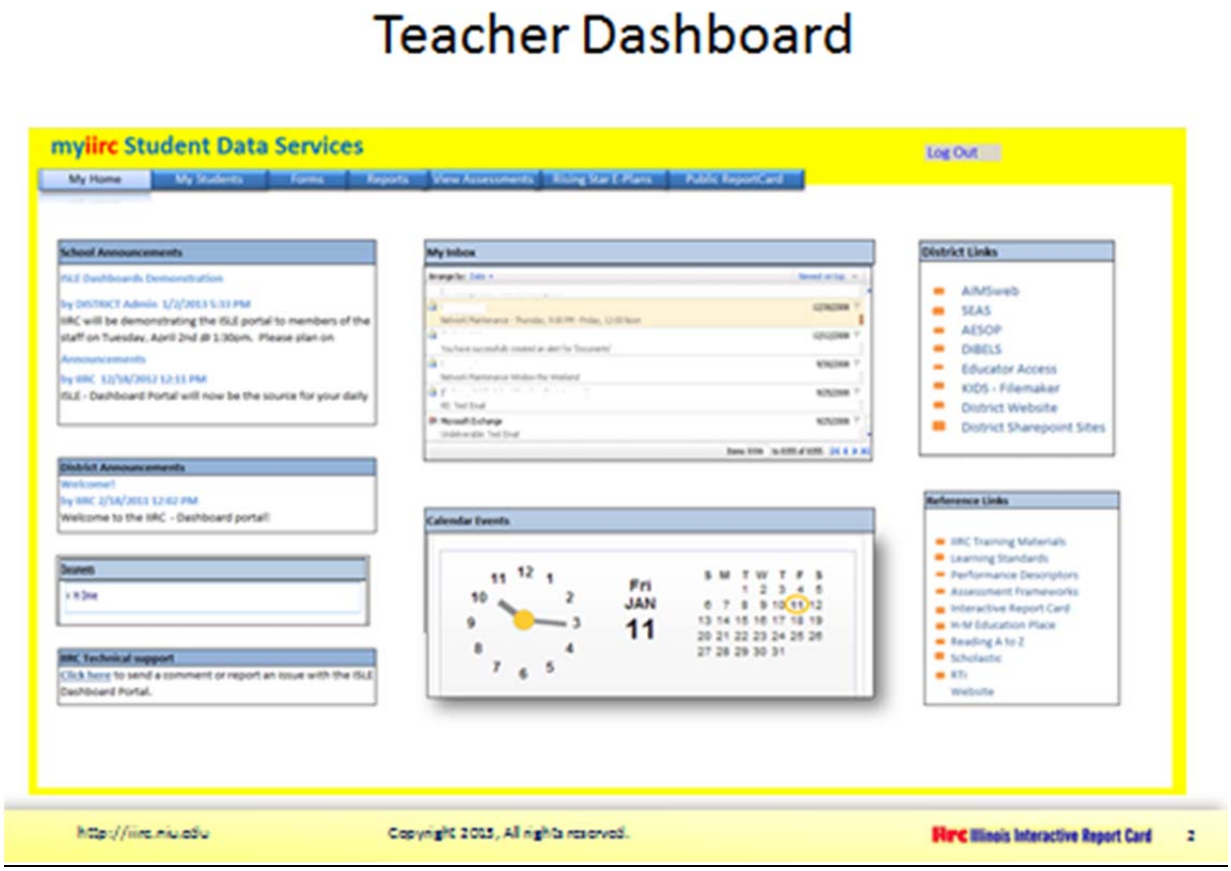
Average not including Chicago	23.02564103	12388.51	13242.36	10211
Total Not including Chicago or IW		483152		

Attachment F

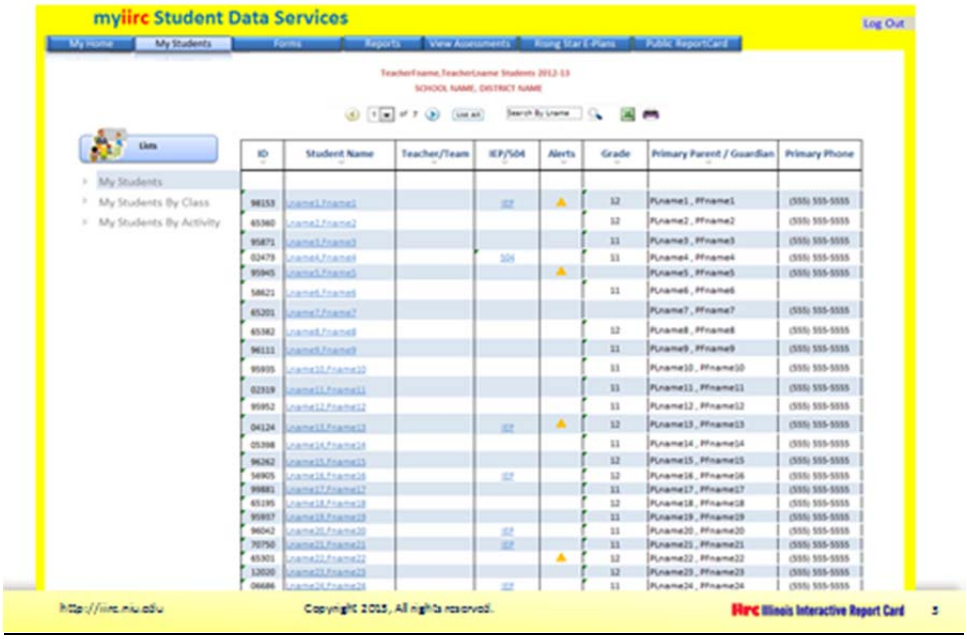
ISLE/inBloom Data Integration Pattern



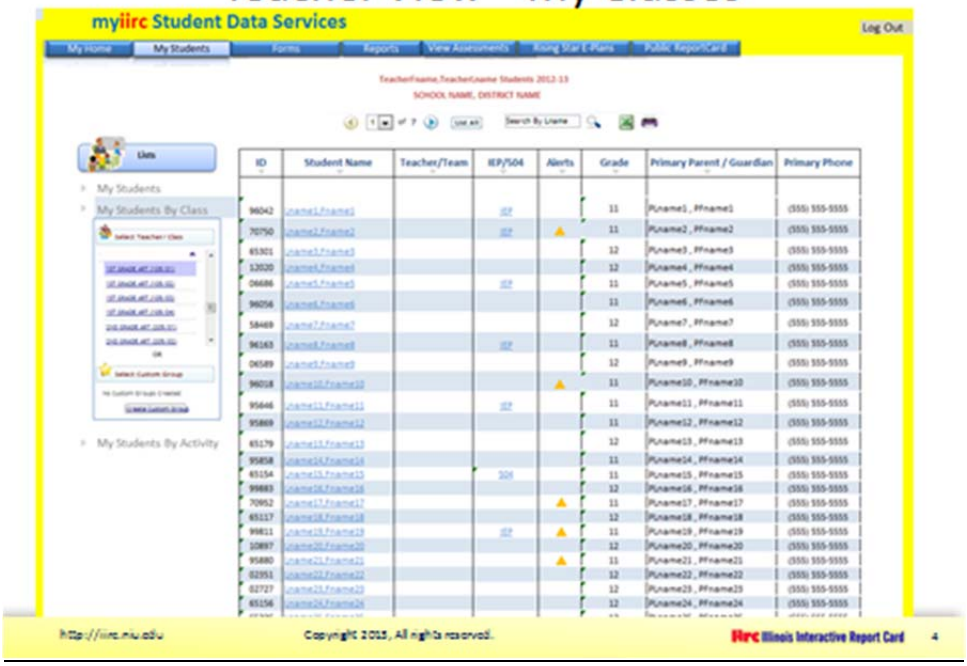
Attachment G
Dashboard Suite Preliminary Design



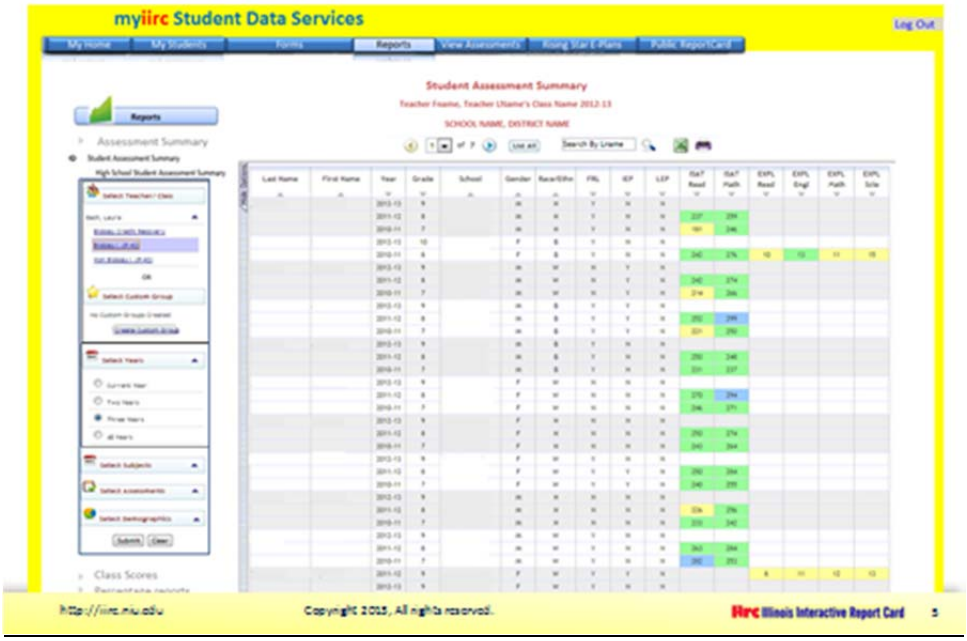
Teacher View – My Students



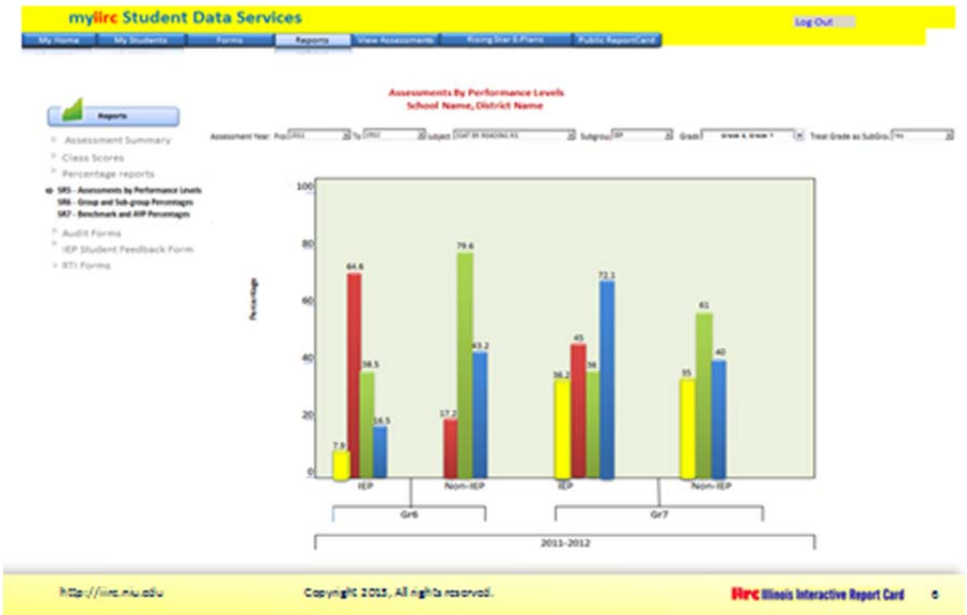
Teacher View – My Classes



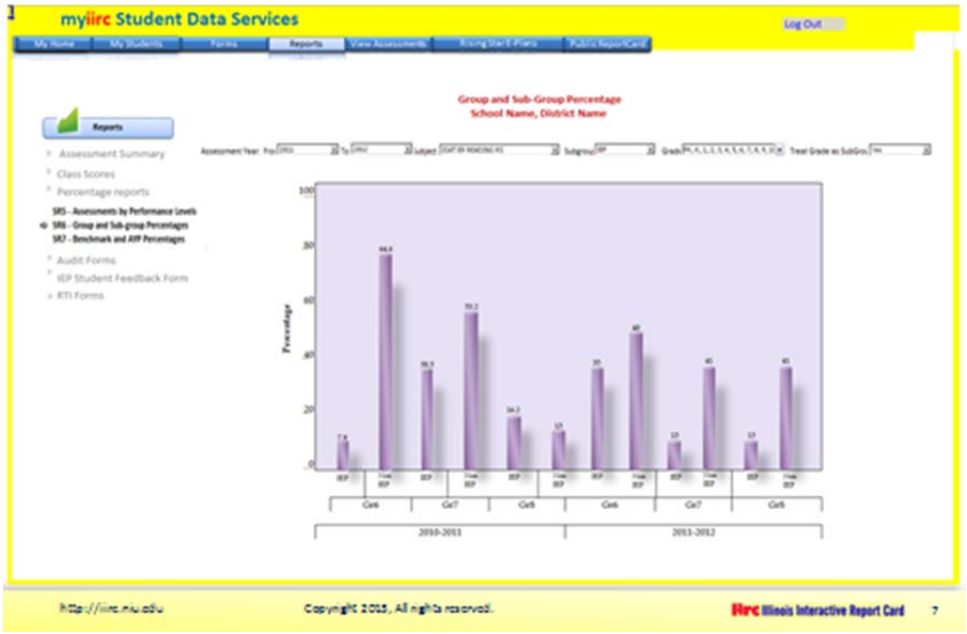
Teacher View – Assessment Rosters



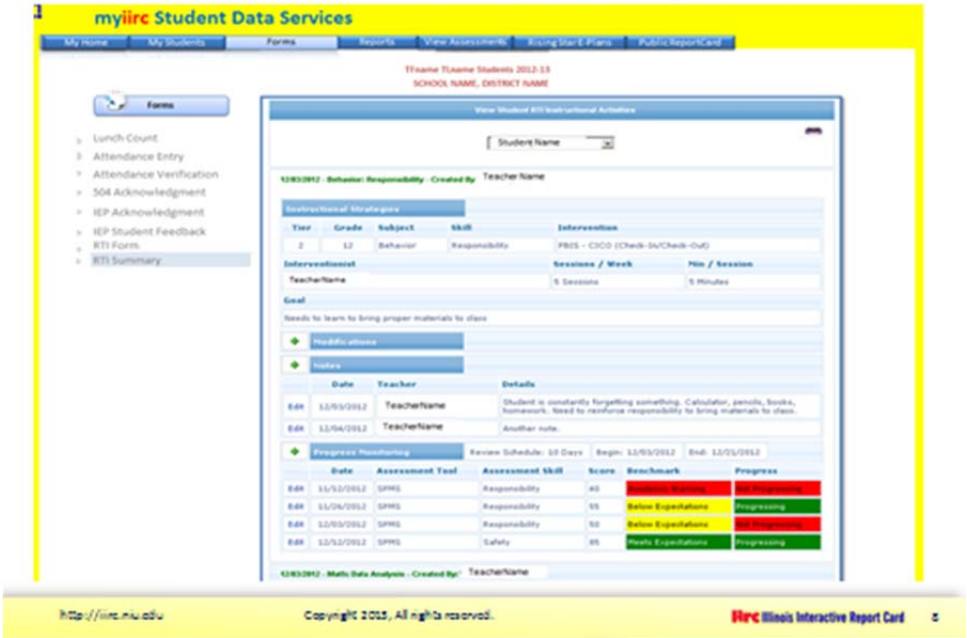
Class Reports -Performance Levels



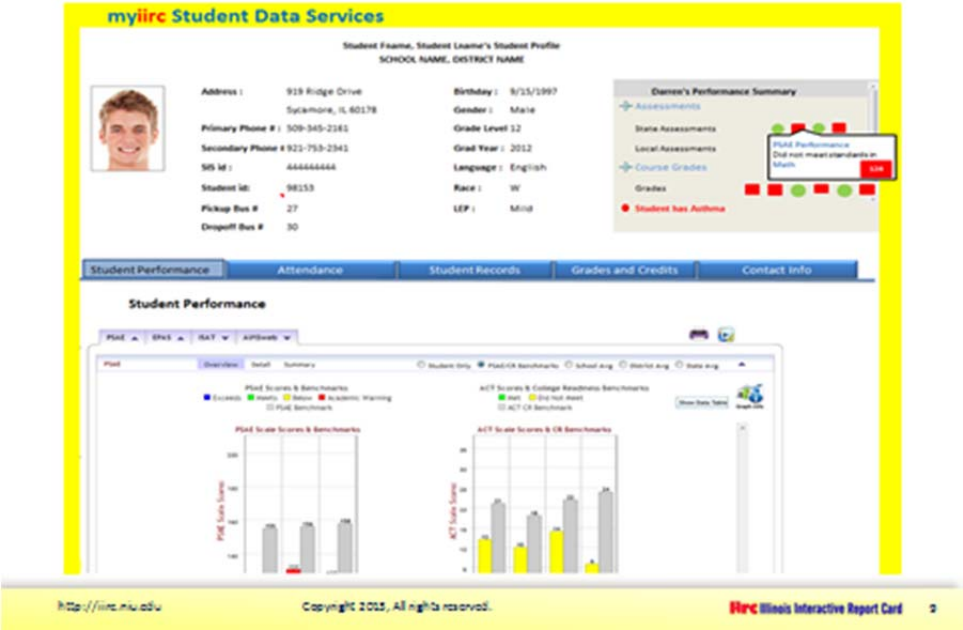
Class Reports- Subgroup Performance



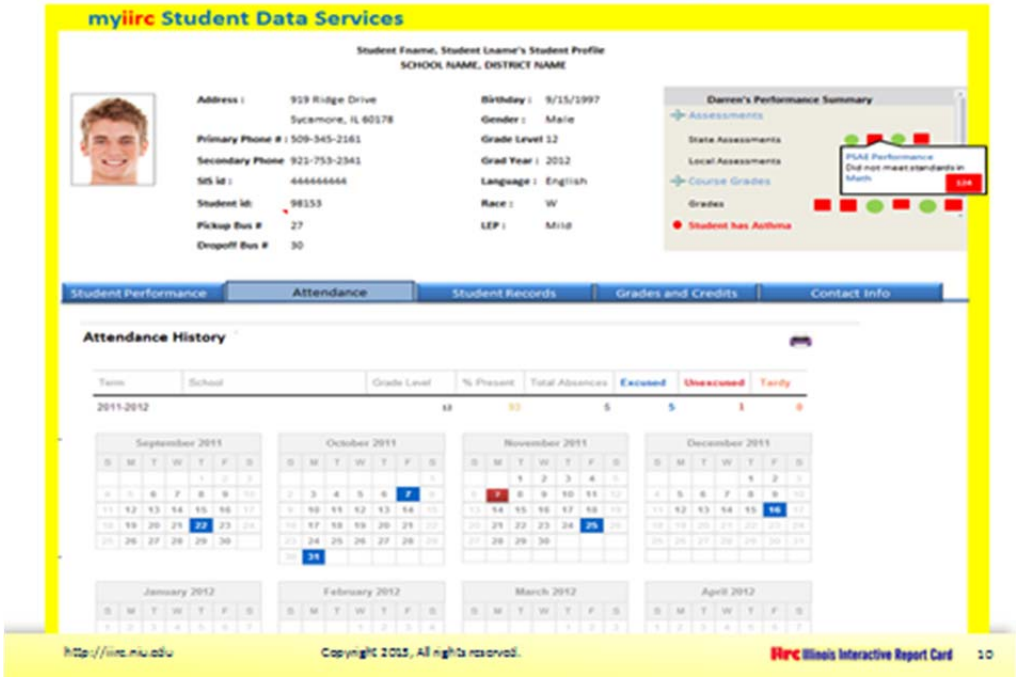
Teacher RTI Summary



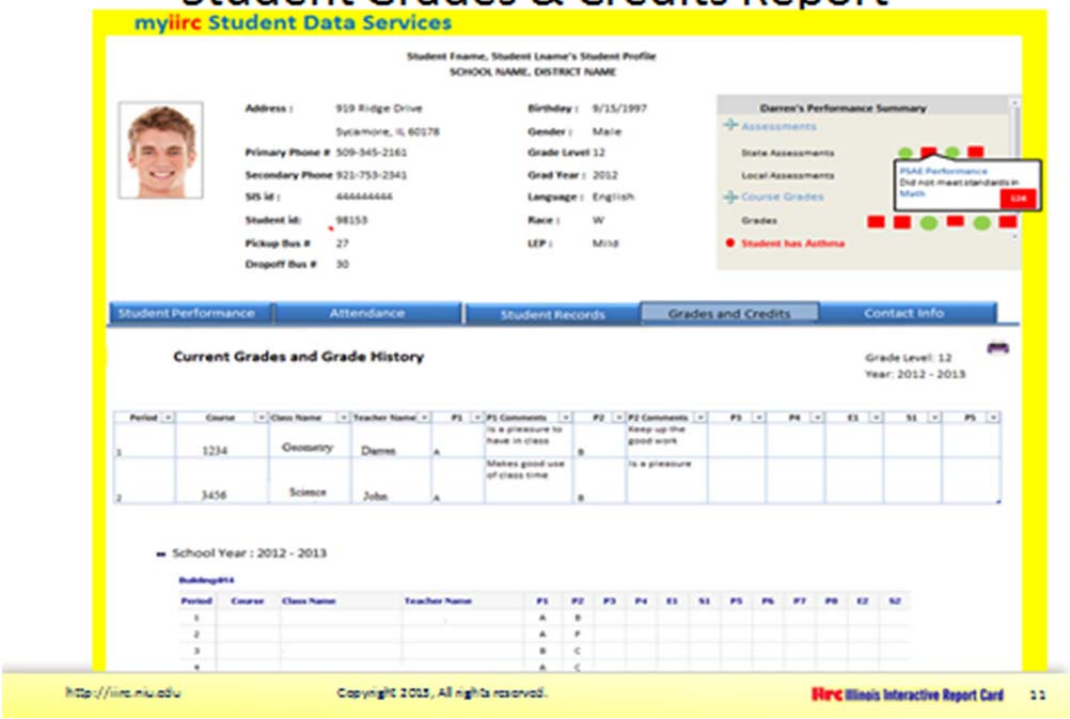
Student Profile View



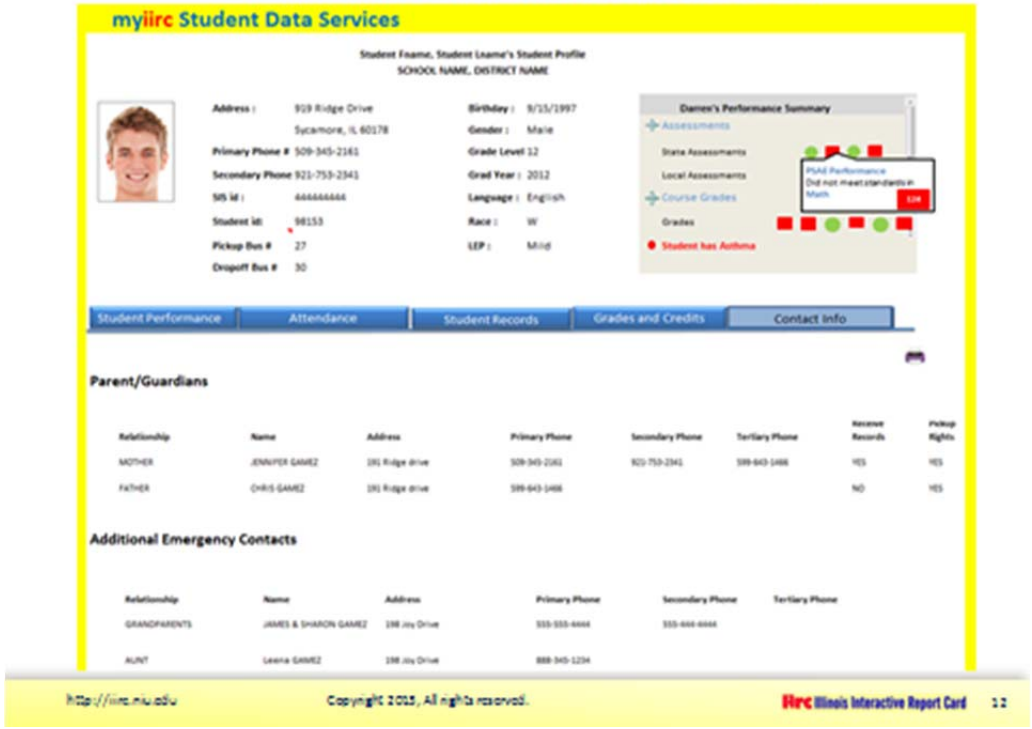
Student Attendance Report



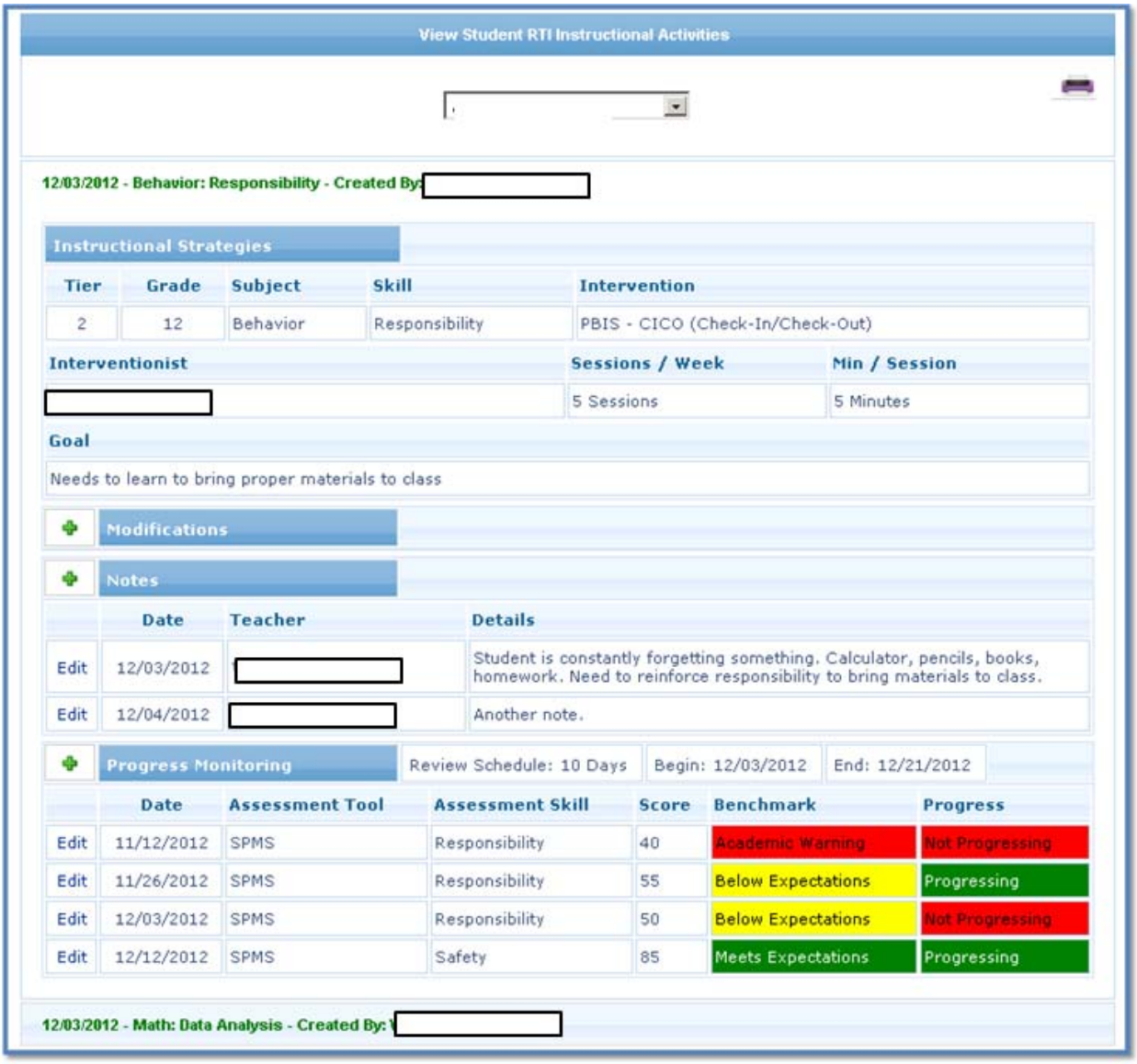
Student Grades & Credits Report



Student Contact Information



Attachment H
Intervention Tracking Preliminary Design



View Student RTI Instructional Activities

12/03/2012 - Behavior: Responsibility - Created By: [redacted]

Instructional Strategies

Tier	Grade	Subject	Skill	Intervention
2	12	Behavior	Responsibility	PBIS - CICO (Check-In/Check-Out)

Interventionist	Sessions / Week	Min / Session
[redacted]	5 Sessions	5 Minutes

Goal

Needs to learn to bring proper materials to class

Modifications

Notes

	Date	Teacher	Details
Edit	12/03/2012	[redacted]	Student is constantly forgetting something. Calculator, pencils, books, homework. Need to reinforce responsibility to bring materials to class.
Edit	12/04/2012	[redacted]	Another note.

Progress Monitoring Review Schedule: 10 Days Begin: 12/03/2012 End: 12/21/2012

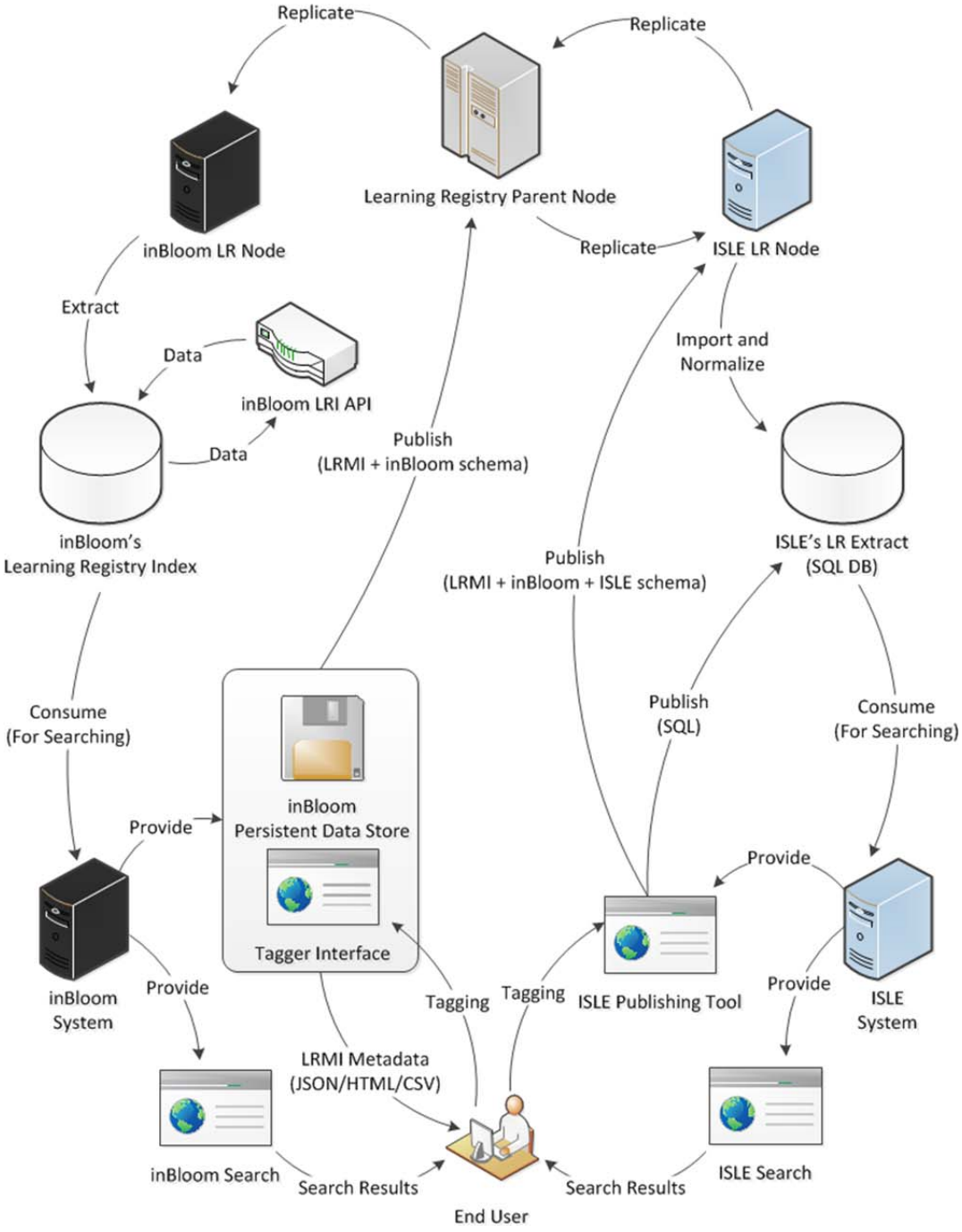
	Date	Assessment Tool	Assessment Skill	Score	Benchmark	Progress
Edit	11/12/2012	SPMS	Responsibility	40	Academic Warning	Not Progressing
Edit	11/26/2012	SPMS	Responsibility	55	Below Expectations	Progressing
Edit	12/03/2012	SPMS	Responsibility	50	Below Expectations	Not Progressing
Edit	12/12/2012	SPMS	Safety	85	Meets Expectations	Progressing

12/03/2012 - Math: Data Analysis - Created By: [redacted]

Attachment I

Content Discovery Preliminary Design and Vocabulary

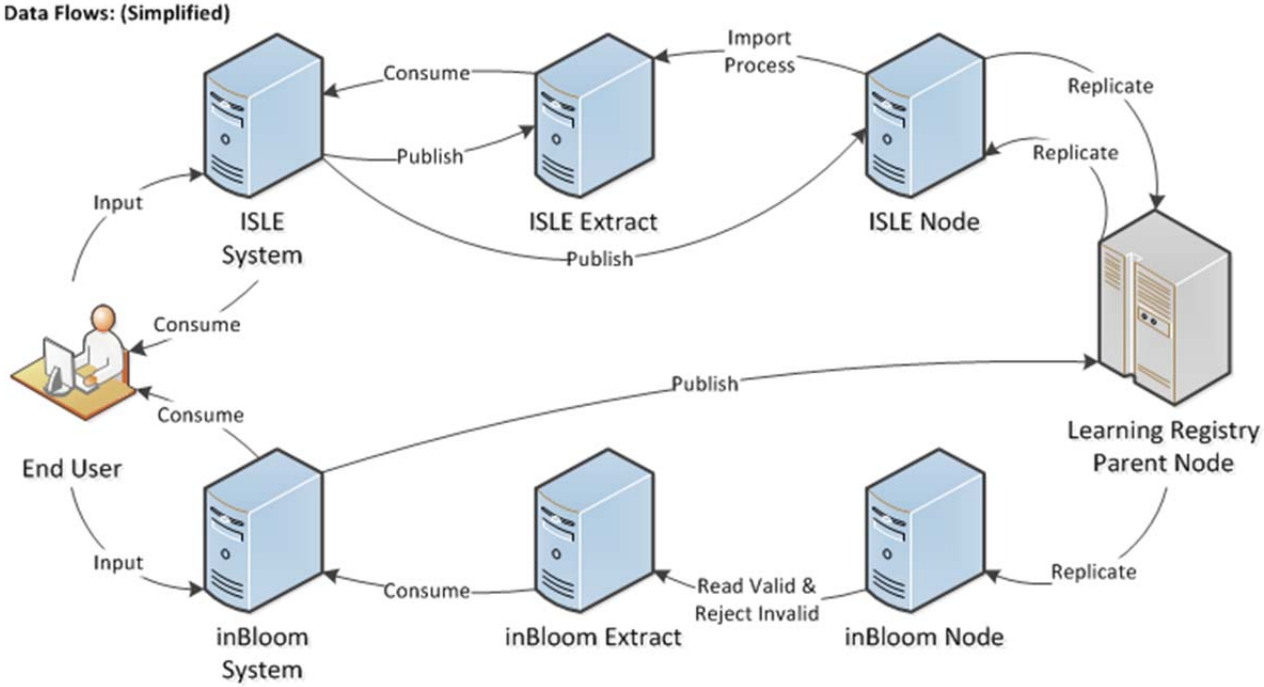
The diagram below shows how the content discovery application interfaces with the Learning Registry and InBloom.



Notes:

- The Learning Registry system allows interaction between ISLE and inBloom through node replication.
- The replication process synchronizes data between the Learning Registry Parent Node and the participating Child Node (ISLE, inBloom, etc).
- The replication process is a batch process that occurs at regular intervals. This means a delay is incurred any time a replication is utilized.
- inBloom utilizes a "round trip" approach: Essentially, they publish directly to the LR and update their own system by consuming from the LR via the inBloom LR Node (see below).
- ISLE utilizes a more linear approach: Essentially, they publish to both their own system and their LR Node simultaneously, and the Learning Registry is updated with ISLE data during the two-way replication process (see below).
- The inBloom approach updates the Learning Registry immediately, but incurs a delay in user-entered data showing up in their LR Node and their System (and by extension, their search results) because the System must wait for replication from the LR, and then the system must process the data.
- The ISLE approach updates their LR Node and their system (and by extension, their search results) immediately, but incurs a delay in the Learning Registry being updated because the Learning Registry must wait for replication from the ISLE Node.
- The inBloom system will handle any resources that are well-formed and use a recognized schema (LRMI, NSDL_DC, Dublin Core). Other resources are rejected.
- The ISLE system will handle any resources that are well-formed and use a recognized schema (LRMI, NSDL_DC, Dublin Core, LOM, and coming soon: LAR). Other resources are automatically interpreted, normalized, and reconstructed into well-formed, complete resources (within the ISLE system) to the best of the system's ability. Resources that are so egregiously malformed that they can't be interpreted are rejected.
- The ISLE System publishes using an extension of inBloom's extension of the LRMI schema.

Data Flows: (Simplified)



Draft Content Discovery Vocabulary

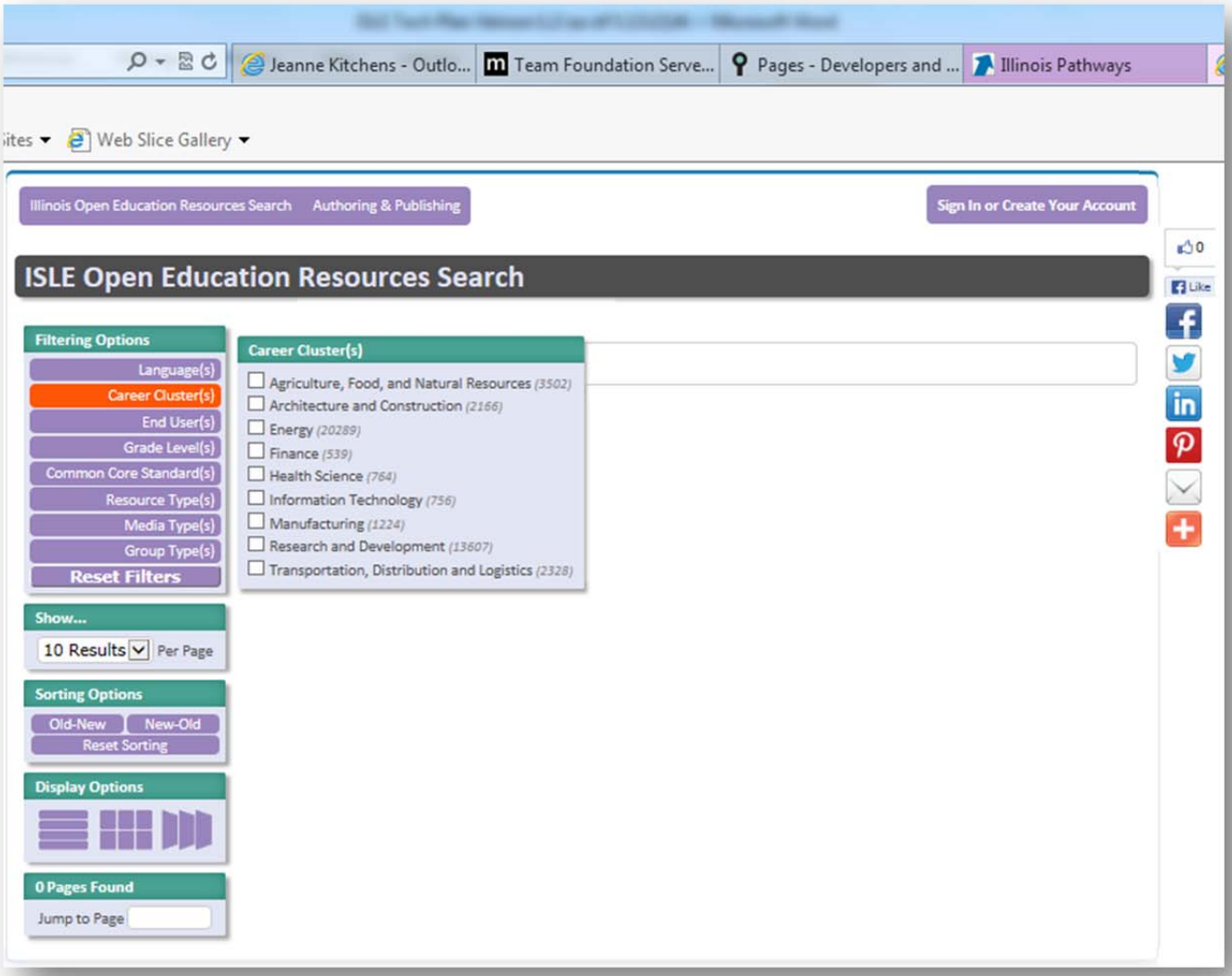
The tagging metadata and vocabulary align with inBloom and Race to the Top (RttT) Reform Support Network efforts making publishing within Illinois and other participating states, districts, and other organizations mutually beneficial. This means that resources published in Illinois will be available to anyone using inBloom searching tools and any resources made available through inBloom tagging can be searched by anyone using the Illinois search. The metadata schema uses Learning Resource Metadata Initiative. The vocabulary under consideration for testing with an Illinois SLC pilot district during April 2013 is available on the Metadata page of the ISLE Developer website http://www.ilsharedlearning.org/DevDOC/SitePages/OERMetadata.aspx.

LRMI Schema Extensions

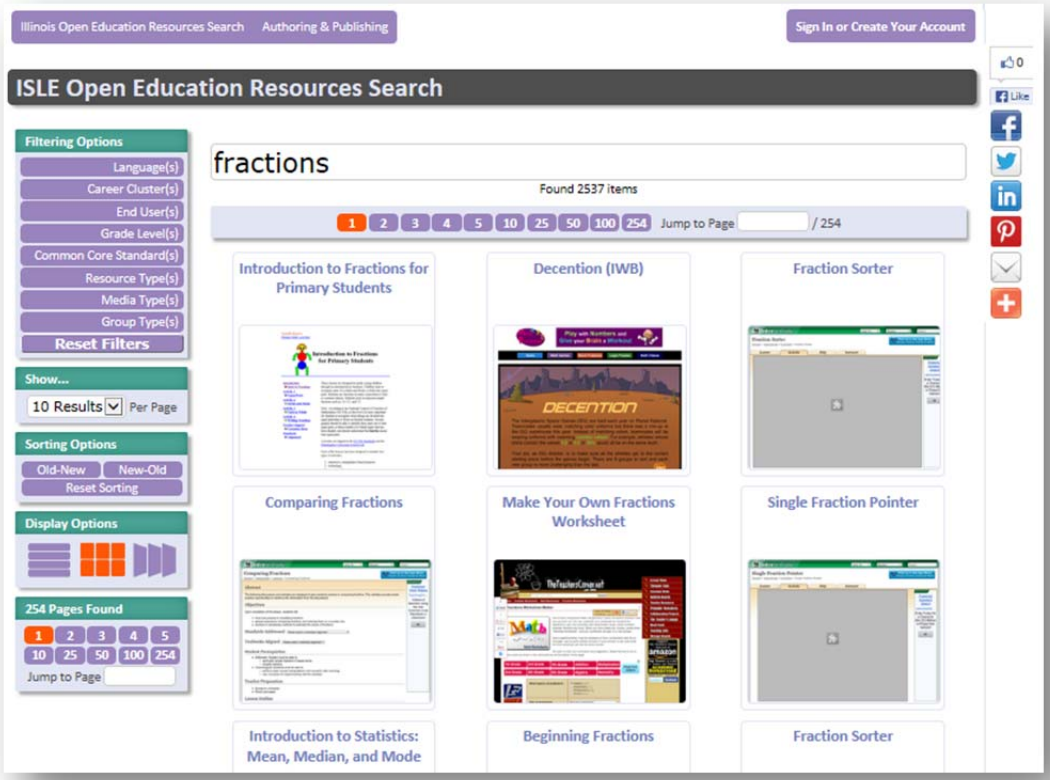
Extensions to the LRMI schema are required to handle ISLE needs. A full list of the ISLE LRMI extensions is available on the ISLE Developer website http://www.ilsharedlearning.org/DevDOC/SitePages/OERMetadata.aspx.

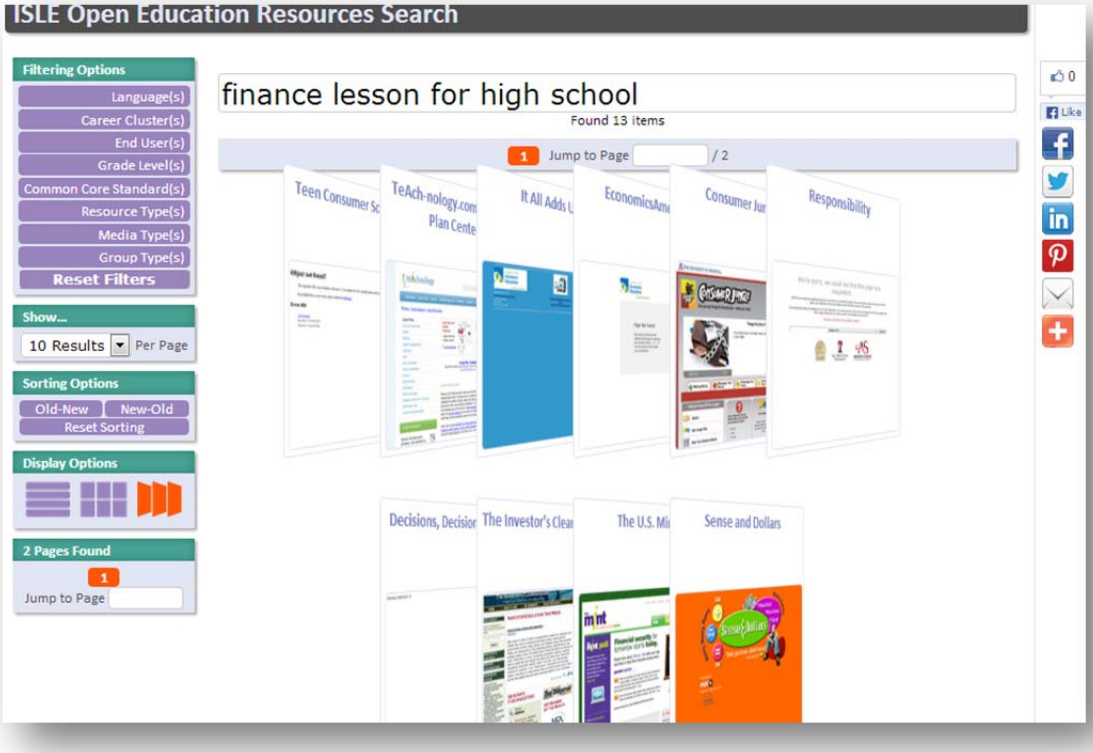
Content Discovery Sample Pages and Design

Sample Default Home Page Illinois OER Search

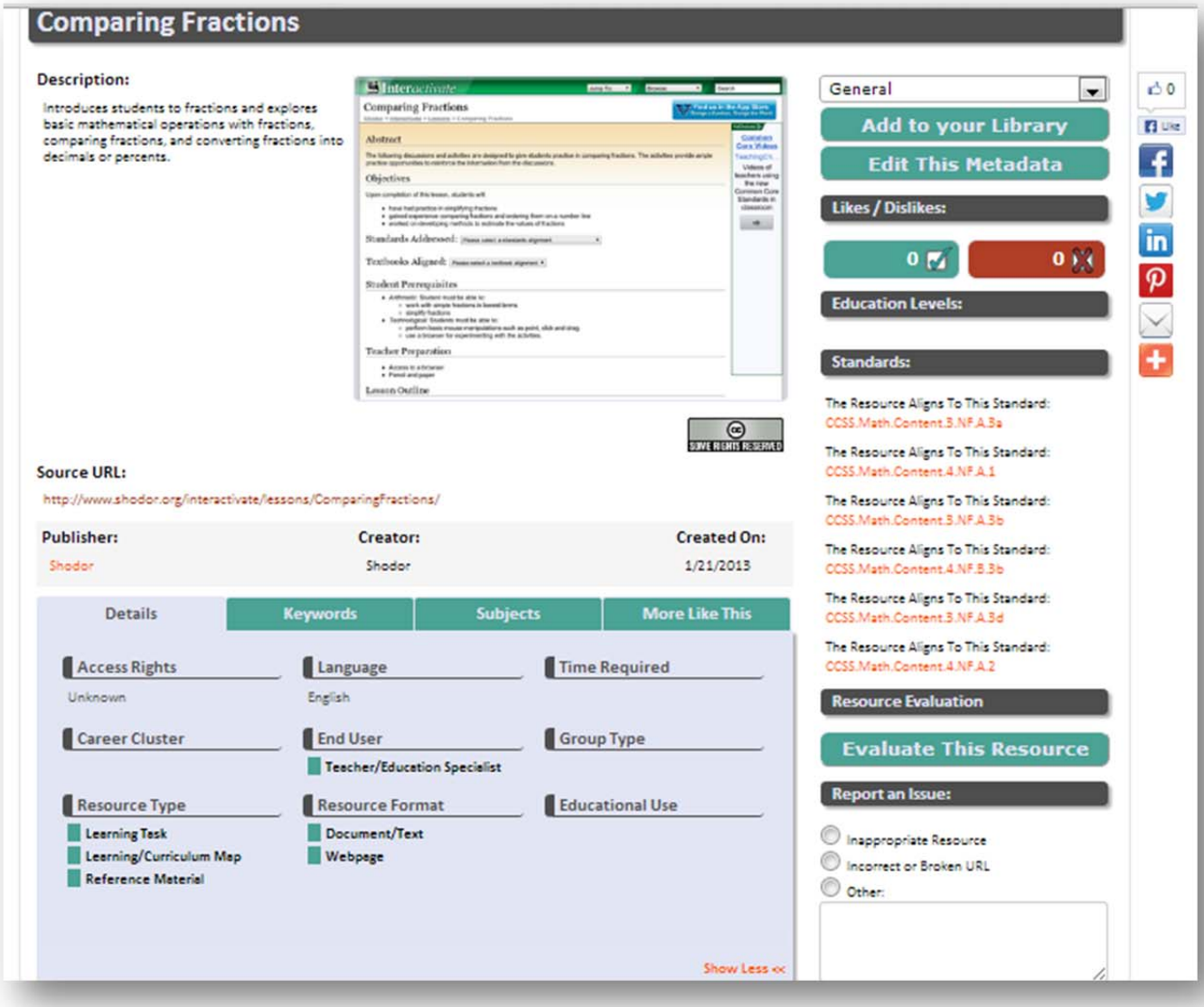


Sample Search Results Pages





Sample Resource Detail Display Page



Content Discovery Design

Overview

The Learning Registry (LR) is a repository of metadata and paradata about online resources. It is currently used primarily for K-12, but should be used for P-20 data, of which K-12 is a subset. It is designed to be a storage and transport mechanism, and not a searchable repository.

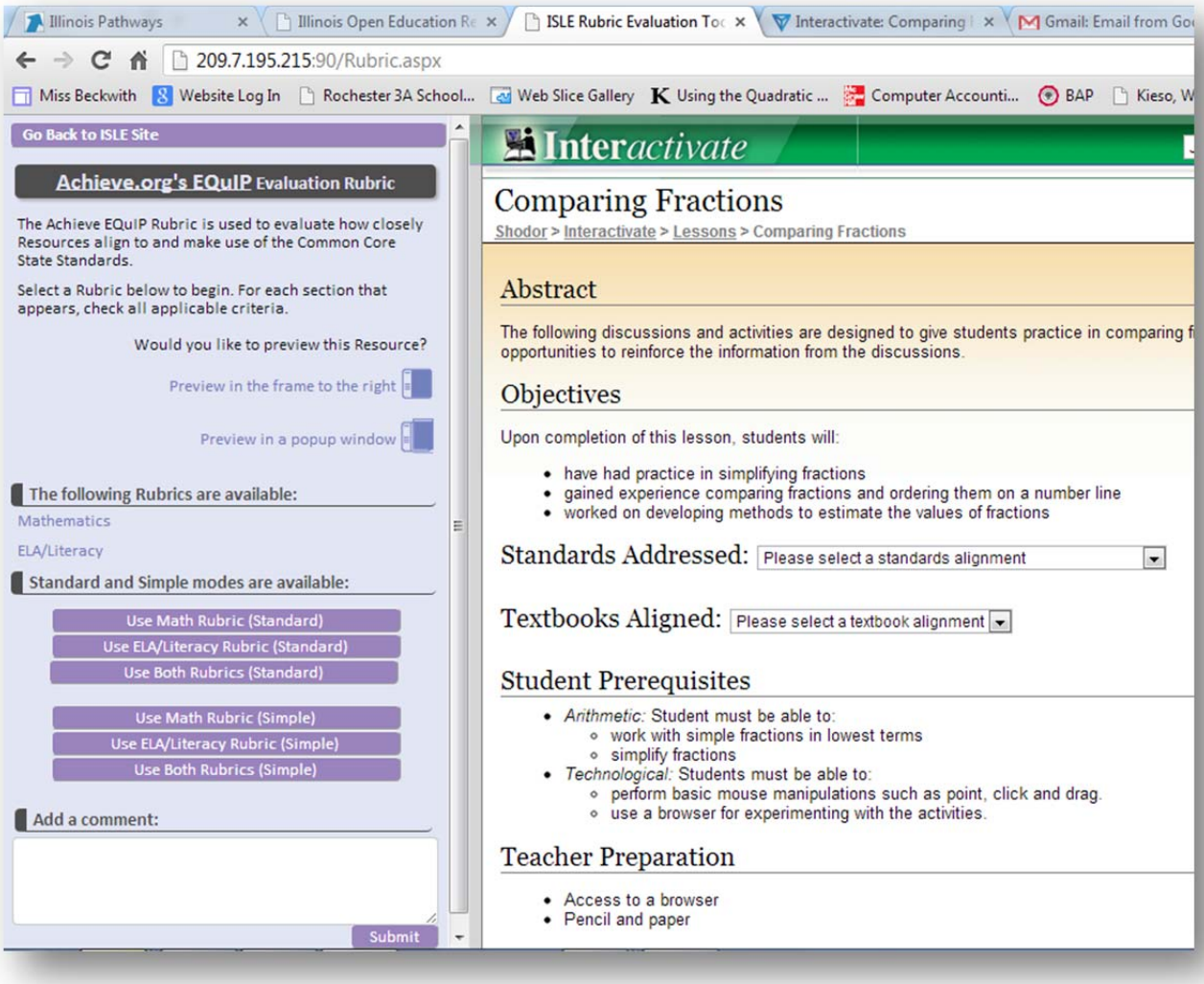
The Learning Registry (LR) network is a collection of LR nodes (or servers), distributed over a wide geographic area. Each LR node has its own database. The nodes all replicate their data to either node01 or node02, which are the two nodes at the "top" of the network. Likewise, node01 and node02 replicate data outward to the other nodes on the network, and to each other. Changes to one LR node's database is replicated across the network, resulting in **eventual consistency** of the data across nodes (for more about eventual consistency, see

http://en.wikipedia.org/wiki/Eventual_consistency). ISLE is running its own LR node, which replicates its data to node01, and receives data from node01.

The Illinois Shared Learning Environment (ISLE) will provide a means for finding relevant resources contained in the LR. Because the LR is not a searchable repository, data must be extracted from it, transformed into a useful, searchable form, and loaded in a database in such a way that searching becomes simple, efficient, and has the most current data available for a resource. This document outlines how ISLE will make the contents of the LR searchable.

The complete Content Discovery Design Document is available on the Illinois Share Learning Environment Developers Documentation web site: http://www.ilsharedlearning.org/DevDOC/SitePages/Home.aspx

Sample Resource Evaluation –
Using Achieve's EQuIP Rubric



Developing Dot Notatation for EQuIP Rubric

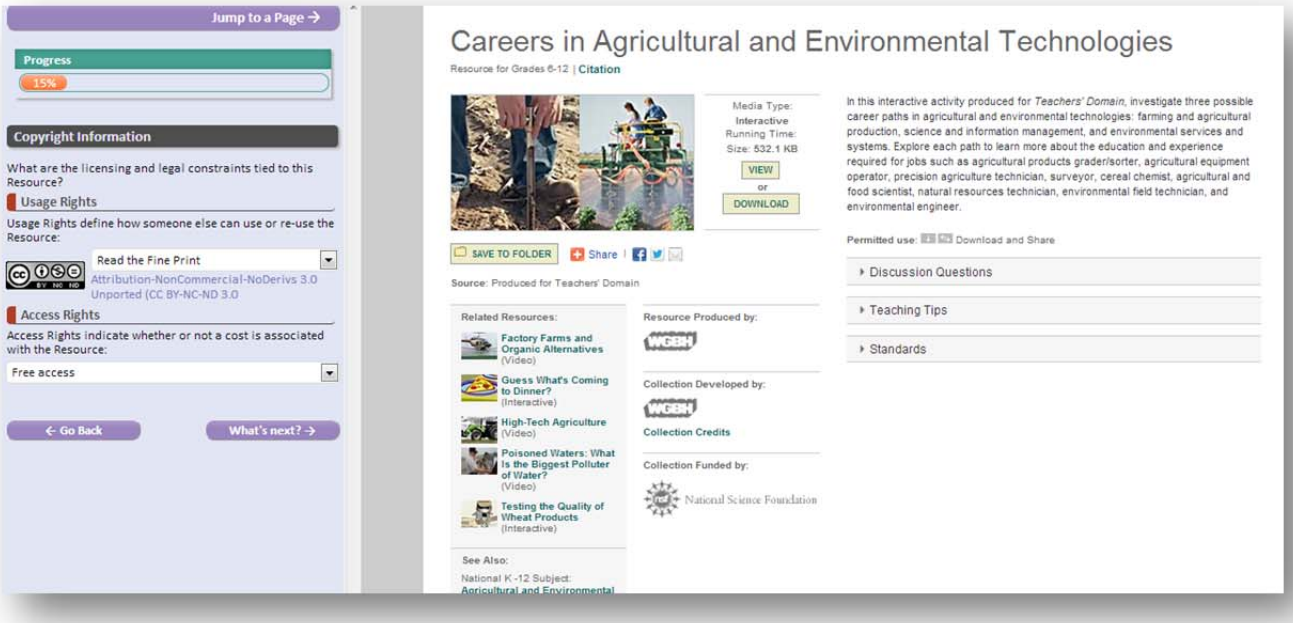
Full explanation of Dot Notation for the EQuIP Rubric can be found on the ISLE Developer Documentation website.

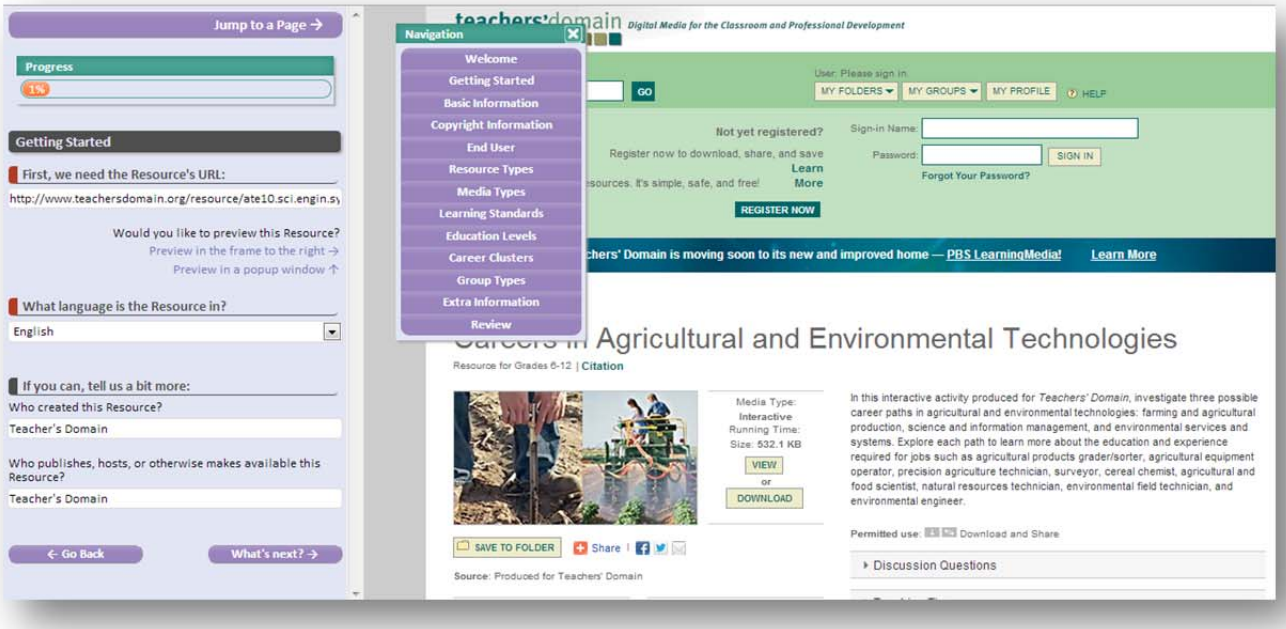
- ISLE OER Paradata - http://www.ilsharedlearning.org/DevDOC/SItePages/OERParadata.aspx
- ISLE OER EQuIP Rubric SKOS and Paradata - http://www.ilsharedlearning.org/DevDOC/SitePages/OERRubrics.aspx

Attachment J
Content Tagging Preliminary Design

Samples for Content Discovery Resource Digital Resource Tagging Tool

The tagging tool will be available online to teachers and others who have an ISLE profile. The samples that follow depict tagging online resources.





Attachment K

Non-Digital Content Authoring Preliminary Design

The diagram below and samples that follow show how
a web page will be created and a digital object can be uploaded.

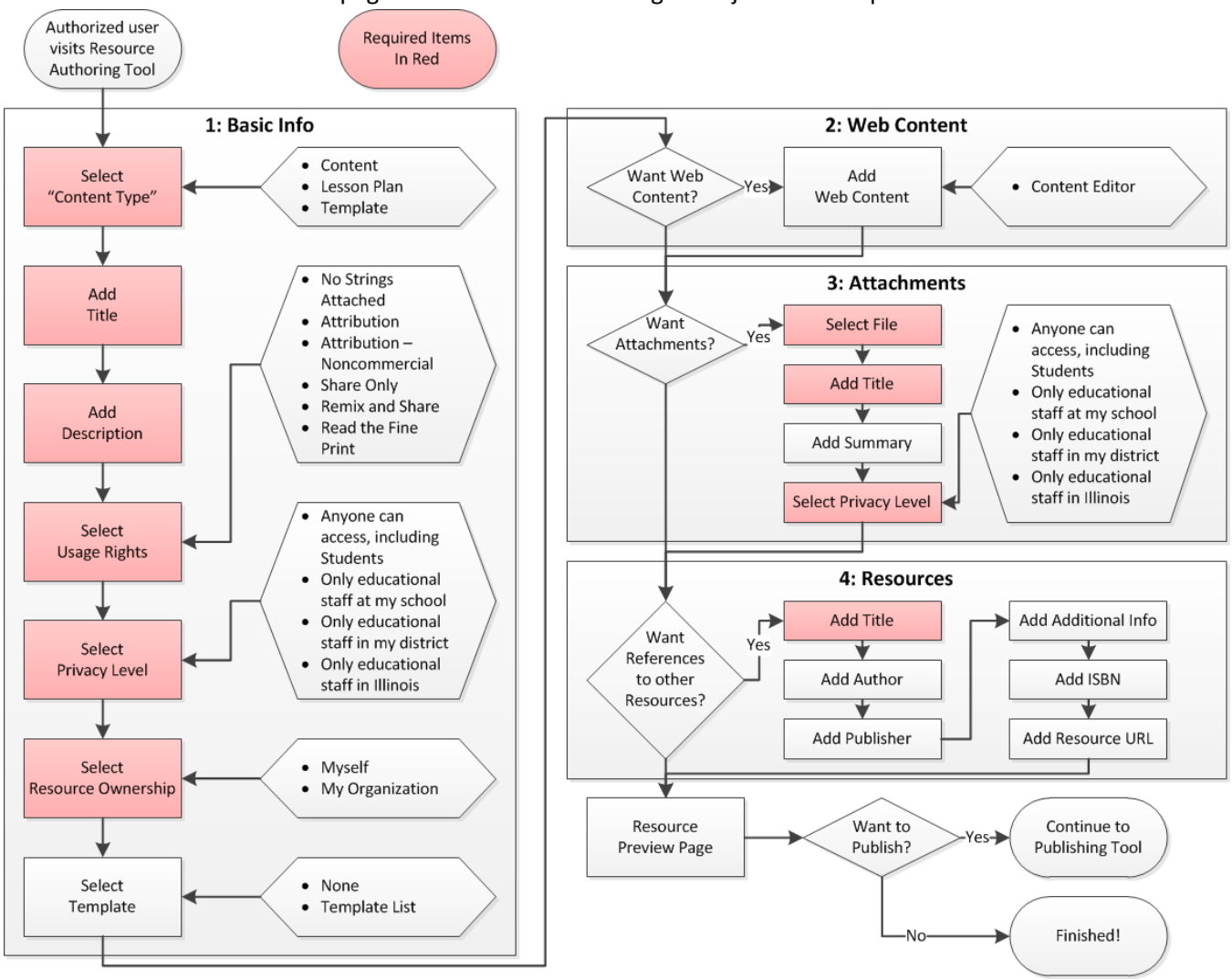
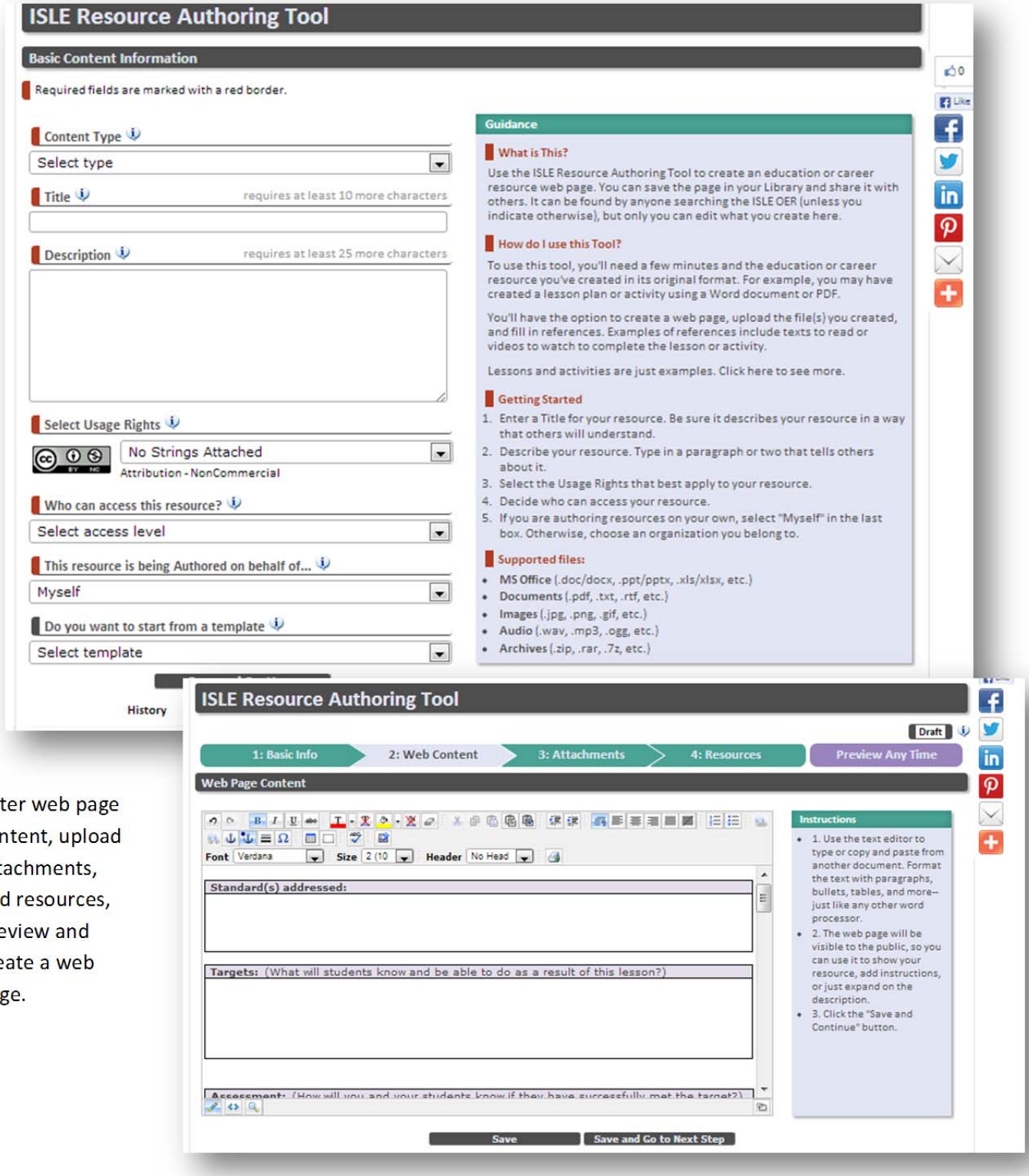


Diagram and Wireframes for Content Discovery Resource Non-Digital Resource Tagging Tool

The sample screen below is the first step and fields needed to create a web page from an off-line/non-digital resource.



Enter web page content, upload attachments, add resources, preview and create a web page.

Attachment L
Career Planning Project Scopes

Illinois Department of Commerce and Economic Opportunity (DCEO)
Project Scopes for Career Development and Post-secondary Tools

DCEO has initiated a series of projects to develop career development and post-secondary materials to be added to the ISLE platform. These projects are critical to creating the content that will guide parents and students on their career exploration journey in the K-12 space as well as providing a roadmap for lifelong learners in Illinois beyond high school graduation. This endeavor has three distinct projects which require different resources to investigate, analyze and present conclusions:

1. Baseline study of current online career development resources
2. Future trends and best practices in online career development resources
3. Extending the benefits for personalized learning through ISLE to post secondary education and workforce development programs

Baseline Study of Current Online Career Development Resources

Illinois state education and workforce development agencies have developed and acquired a wide variety of web-based career and educational management applications and tools and made them available throughout the state to provide assistance to Illinois residents. Some of these applications and tools are designed for broad use by all Illinois residents whereas others are designed for targeted populations such as K-12 students, college students, disadvantaged adult workers, people with disabilities, and veterans. Illinois schools, colleges and universities and workforce development agencies and service providers have also identified and used a wide variety of other public and commercial web-based applications and tools. In all, Illinois spends millions of dollars annually to develop and use these applications and tools.

In the baseline analysis, a team of market analysts will study the core career and educational planning and management functions including:

- Career exploration involving career interest inventory and skill and aptitude assessments,
- Career and occupational information including work tasks and academic and technical knowledge and skills, education and certification requirements, employment outlooks, wages,
- Choosing and applying to postsecondary education and training programs
- Applying for financial aid for postsecondary education and training
- Searching for jobs including job openings and job search tools and aids (e.g., resumes, job clubs)
- Career transitions including how to explore applying current skills to new jobs (e.g., dislocated workers)
- Career and professional networking (e.g., alumni networks)

The project will deliver two reports: (1) an inventory of both online resources and applications currently in use by the user base, with commentary about depth and breadth of information and services, and (2) a survey of current users to document what is currently being used today, and how well current products are meeting key customers' needs.

Future Trends in Career and Educational Management Web-based Applications and Tools

In order to plan effectively, a comprehensive vision of the future state is needed to answer the following questions:

- What are the future trends and leading innovations in web-based applications and tools?
- How should these innovations influence future development of career planning tools in Illinois?

Project Goals:

1. Help the State to envision the future of the marketplace for career and educational management web-based applications and tools so that it may make better decisions on resource allocation and program development;
2. Assist the State in understanding the role it specifically can play in a future-looking solution to best serve Illinois residents and industry.

Impact:

- **Reduce the amount of time it takes for an Illinois resident to explore career and educational opportunities, find suitable employment and manage careers,** which will increase transition rates and reduce unemployment.
- **Improve the returns to public investment in web-based applications by expanding access, improving utilization and effectiveness and reducing duplication.**
- **Increase the number of Illinois jobseekers who enter high-demand careers critical to the future economic development of Illinois and find higher-quality jobs that better match their skill sets**, reducing underemployment and increasing standard of living.
- **Increase the number of Illinois employers who find highly-qualified candidates for job openings more quickly**, encouraging companies to source additional talent from within Illinois and boosting the state's economy.

Extending the ISLE Approach to Personalized Learning to Postsecondary Education and Workforce Development in Illinois

This phase of the project will explore and pilot test the expansion of the Illinois Shared Learning Environment (ISLE) platform for personalized e-learning to postsecondary gateway education and workforce development in Illinois. This ISLE platform builds on the Shared Learning Collaborative (SLC) approach to personalized learning now being pilot-tested to support the implementation of the Common Core academic standards in K-12 schools in Illinois. This project will accelerate the planned ISLE extension into postsecondary education and workforce development.

Targeted Application Area: Common Core Math Standards

The project will focus on one major application area--mathematics. This area is one major focus of the implementation of the Common Core standards in Illinois and is a critical gateway skill area for the Illinois Pathways initiative. This project will include how the Common Core Standards address the new dimension of Mathematical Practice and its emphasis on real-world applications.

The project will leverage and build on national initiatives to extend the Common Core into adult and postsecondary education including:

- The National Governors Association (NGA) Common Core State Standards Postsecondary Collaborative which is designed to support successful postsecondary implementation of the CCSS in three pilot states: Maryland, Missouri and Nevada.
- The U.S Department of Education project--Promoting College and Career-Ready Standards—which will assist ABE programs in preparing students for success in higher education and training programs by improving alignment with new GED and CCSS.
- Other national research and development projects including national projects on academic and technical integration in teaching mathematics.

Illinois Shared Learning Environment
Technology Development & Deployment Plan
February 2013 through June 2014

Exhibit B

Learning Map Requirements

Purpose

To provide applications within the Illinois Shared Learning Environment (ISLE) platform which create and deliver learning maps that can serve as visualizations of curriculum and career pathway maps.

A Learning Map is an easy-to-understand visualization of the scope and sequence of learning goals connected to learning standards. It serves as a tool for learners to visually navigate through learning standards and goals. Learning maps are connected to learning resources for advancing through skill progressions and assessments designed to evaluate learner proficiency. For educators, learning maps can be tools to organize and create learning sequences based on standards that correlate to the curriculum. For students they can be used to plan and monitor college and career pathways.

Learning maps should connect to the Common Core State Standards, but have the flexibility to align with other standard sets including, but not limited to, Next Generation Science Standards (NGSS), and other content areas, as well as to technical and professional standards such as those for industry credentials.

Note: Illinois solutions must address rural and metro regions and meet educators where they are in the technology use spectrum but offer mechanisms to upgrade as technology access increases.

ISLE Learning Maps Terms and Definitions

Unlit Learning Map: The purpose of an 'unlit' learning map is to communicate the possible skill progressions through a set of or combination of learning standards. This includes the goals required for learners to achieve mastery of specified standards. Unlit maps will communicate the standards and how the standards relate to the learning experience. They will also provide a connection to resources to help learners progress from one node (see **Learning Map Node** below) to the next. Unlit maps are not connected to student data and are not individualized to a learner.

Lit Learning Maps: The purpose of a 'lit' learning map is to add depth to the personalized learning experience by fully integrating student achievement data into the learning map. All of the functionality outlined for an unlit learning map is included in lit learning maps, with the addition of integrated student data. Student achievement data will 'light up' a node on a learning map to indicate a student's proficiency in that goal. Lit learning maps will fully integrate with the Assessment Authoring and Delivery tool described in Exhibit C. This will also result in an automated map advancement feature. A lit learning map will also provide functionality that increases the ability of a learner to "chart their own path".

Learning Map Node: A node is a single point on a learning map. Each node represents at least one skill, objective, learning standard, or learning outcome. Learning resources, assessments, and student outcome data can be connected to the node (see figure 1, p. 13). A node can represent multiple learning standards.

Macro-Map: A high level learning map that depicts a path through a grade level or across grade levels is referred to as a Macro-Map. A node on a macro-map represents a broad view of standards or learning goals. A macro-map node could connect to learning resources and assessments or a detailed view (see **Micro-Map** below) of the learning goal associated with that node.

Micro-Map (Sub-Map): Macro-maps are comprised of combinations of micro-maps. A micro-map represents a detailed view of learning objectives or standards. A micro-map node could connect to learning resources and assessments or additional micro-maps.

Learning Map Application Users

User views are to be determined by a user's access rights, roles, and organization affiliations. This includes open access, as well as password protected views.

Note: An ISLE user's access to personally identifiable student information must be compliant with the Family Educational Rights and Privacy Act (FERPA) and other applicable privacy protection laws.

ISLE applications, including the learning map applications will be available to the following types of users:

State agency and state support organization personnel	STATE
K-12 school district personnel	K12
Workforce development program personnel	WDP

Community program personnel, such as after-school programs and work-based learning	CP
Science, Technology, Engineering, and Math (STEM) Learning Exchanges organized to improve delivery of Illinois Pathway Career Cluster programs ranging from K to postsecondary The STEM Learning Exchanges are composed of education, business, and community partners	STEM
Parents and guardians	PG
Students attending any Illinois public schools or participating with workforce development, STEM Learning Exchanges, or other community programs	STU

Functionality Requirements

Learning map functionality will include the ability for users to

- Create learning maps
- Share learning maps
- Connect to student data
- Connect to learning resources and assessments
- Customize learning map views

Initially, the learning map application will provide users the ability to create, store, and share learning maps for grades K-12 in English Language Arts and Mathematics aligned to Common Core State Standards. The learning map application must also have the flexibility to align with other standard sets, including the NGSS and other content areas, as well as technical and professional standards. All items created by Illinois users will remain as tagged digital objects and applicable artifacts will be stored by ISLE to remain accessible to Illinois users indefinitely. Fully functional interactive maps will include connections to assessment items (e.g., tasks, question items), evaluation/scoring tools (e.g., answer keys, rubrics), and other supporting learning resources.

For school districts, the tool will provide a single system of learning artifacts across the curriculum.

Creating and Sharing Unlit Learning Maps

The chart below identifies the minimum requirements for creating unlit learning maps (i.e. learning maps not connected to student achievement data).

Creating Unlit Learning Maps	**STATE**	**K12/WDP**	**STEM**	**CP**	**PG/ STU**
Provide an authoring tool to create and share default learning maps based on learning standards and career pathways (For example: CCSS, Next Generation Science Standards, STEM Pathways)	X	X	X	X	
Provide connections to tagged resources or to searching tools with searching parameters connected to a node	X	X	X	X	X
In addition to default maps, provide authoring tool functionality to create custom, standards-based learning maps	X	X	X	X	
Assemble and combine micro-maps into custom macro-maps	X	X	X	X	X
During map construction, authoring tool provides resource search results by standard to simplify the attachment process	X	X	X	X	
Learning resources (including assessment items and/or performance tasks) can be manually attached to nodes	X	X	X	X	

The chart below identifies the minimum requirements for sharing unlit learning maps (i.e. learning maps not connected to student achievement data).

Sharing Unlit Learning Maps	**STATE**	**K12/WDP**	**STEM**	**CP**	**PG/ STU**
Share custom or modified maps with other users	X	X	X	X	
Provide a workflow process for optional validation and endorsement of learning maps at the state, local school district, and STEM Learning Exchange levels	X	X	X		

Creating and Sharing Lit Learning Maps

Lit learning maps are to include all of the creating and sharing functionality outlined in the Unlit Learning Map section with the addition of the following requirements for connecting to student data, learning resources, and customized views.

Note: Any and all access to personally identifiable student information must be compliant with FERPA and other applicable privacy protection laws. ***Cases where such access may be required only with school district or parent authorization are marked with an asterisk (*)***. Any and all learning data remains the property of the local districts and the students/families attending their schools.

Connection to Student Data

The following chart indicates the minimum requirements for how learning maps will connect and display student data.

Connection to Student Data for Lit Learning Maps	**STATE**	**K12/WDP**	**STEM**	**CP**	**PG/ STU**
Achievement data from various assessments such as state assessments (e.g. PARCC), locally adopted commercial interim assessments, and locally authored assessments are linked to each node on the map at the smallest grain size available	X	X	X	X	X
Progression to next node is based on student achievement data from one of the sources listed above and includes recommendations for resources (based on student achievement) that will help students progress through map	X	X	X*	X*	X
Task-based assessment can trigger advancement within the map	X	X	X*	X*	X
Acceptance and validation of outside assessment information (i.e. Museum, Work-based Learning,...) can trigger advancement within the map	X	X	X*	X*	X
Advancement within micro-maps triggers advancement within macro-maps (i.e. K-12 ELA/Literacy skills, STEM pathways)	X	X	X*	X*	X
Automated item scoring within the Assessment Authoring & Delivery Tool can trigger advancement within the map	X	X	X*	X*	X

Connections to Learning Resources

The chart below indicates the minimum requirements for how learning maps will connect to instructional resources.

Connection to Resources	STATE	K12/WDP	STEM	CP	PG/ STU
Recommendations to tagged resources are provided through learning map nodes based on standards-based learning outcomes and student achievement	X	X			X
Above recommendations can be based on multiple aspects of student data, as well as district and teacher profiles and preferences.	X	X	X*	X*	X
Map authors have the ability to curate "categorical collections" of resources attached to nodes of the map.	X	X	X	X	
Users have the ability to make resource selections from "categorical collections" to foster advancement within the map.	X	X	X	X	X

Learning Map Views

The chart below indicates the minimum requirements for how learning maps will be viewed by users

Learning Map Views	STATE	K12/WDP	STEM	CP	PG/ STU
Provide a view of individual lit learning maps	X	X	X*	X*	X
Provide a view of classroom maps (aggregated data of the class)	X	X	X	X	

Provide aggregated views of student groups (manual and automated grouping tool)	X	X	X	X	
Provide a preview of the next learning map in a sequence of maps within a pathway (i.e. the ability to view the next micro-map within the macro-map)	X	X	X	X	X

Analytics and Reports

Online analytics and reports providing real-time data on application usage and outcomes will be used to:

- Monitor frequency and extent of use of the application
- Evaluate personalized skill progression through reporting micro and macro learning map analytics
- Provide real-time data on changes in student achievement over time

Reports Requirements	**STATE**	**EDU/WDP**	**STEM**	**CP**	**PG/ STU**
State-level analytics reports on usage	X	X			
Analytics and reporting tools on changes in student achievement over time by: ● Individual ● Classroom ● School ● District ● State	X	X	X	X	
Standard reports and ability to create custom reports	X	X	X	X	
Reports of student attainment of specific standards	X	X	X	X	X

User Interface Requirements

Ease of use and the graphical design of the user interface are critical aspects of adoption at the local level. The proposal must show evidence of ease of use including screen shots.

User Interface Requirements	STATE	K12/WDP	STEM	CP	PG/ STU
Customizable libraries of visual interface options and skins are available	X	X	X	X	

Branding

Integration with the ISLE portal will include branding the learning map application within the context of ISLE.

Accessibility Requirements

All user interfaces must meet W3C compliance requirements.

The learning maps interface for teachers and students will accommodate English Language Learners (ELL) and individuals with disabilities to address recommendations developed by PARCC. Some examples include supporting use of alternative keyboards and adjustable font sizing. The draft PARCC Accommodations Manual is a comprehensive policy document that will support local educators in the selection, administration, and evaluation of accommodations for the assessment of students with disabilities and English learners on the PARCC End-of-Year, Performance-Based, and optional Mid-Year assessment components. Additional information is available on the PARCC Accessibility Accommodations and Fairness web page http://www.parcconline.org/parcc-accessibility-accommodations-and-fairness.

The Illinois Information Technology Accessibility Act (IITAA) requires Illinois agencies and universities to ensure that their web sites, information systems, and information technologies are accessible to people with disabilities. While the Americans with Disabilities Act and Section 504 of the Rehabilitation Act already require the State to ensure accessibility, the IITAA establishes specific standards and encourages the State to address accessibility proactively http://www.dhs.state.il.us/page.aspx?item=32765.

Support

The application will include online user guides accessible 24/7. The guides will be provided to address the following audiences:

State agency and organization personnel
K-12 school district personnel
Workforce development program personnel
Community program staff such as after-school programs and work-based learning
Science, Technology, Engineer, and Math Learning Exchanges organized to improve delivery of Illinois Pathway Career Cluster programs ranging from K to postsecondary. The exchanges are composed of education, business, and community partners

Support will include any application upgrades and maintenance needed to assure the system is fully functional throughout the duration of the contract period. Fully functional is defined as all support functionality is available online 24/7 to all users. Planned maintenance and upgrades will be kept to a minimum. The proposal will include maintenance and upgrade schedule.

Interoperability Requirements

Interoperability between the Learning Map application and the Assessment Authoring Tool (described in Exhibit C), as well as other ISLE applications, is required. The learning map application is also required to synchronize with other ISLE applications, such as the dashboards, within the ISLE portal environment as outlined below.

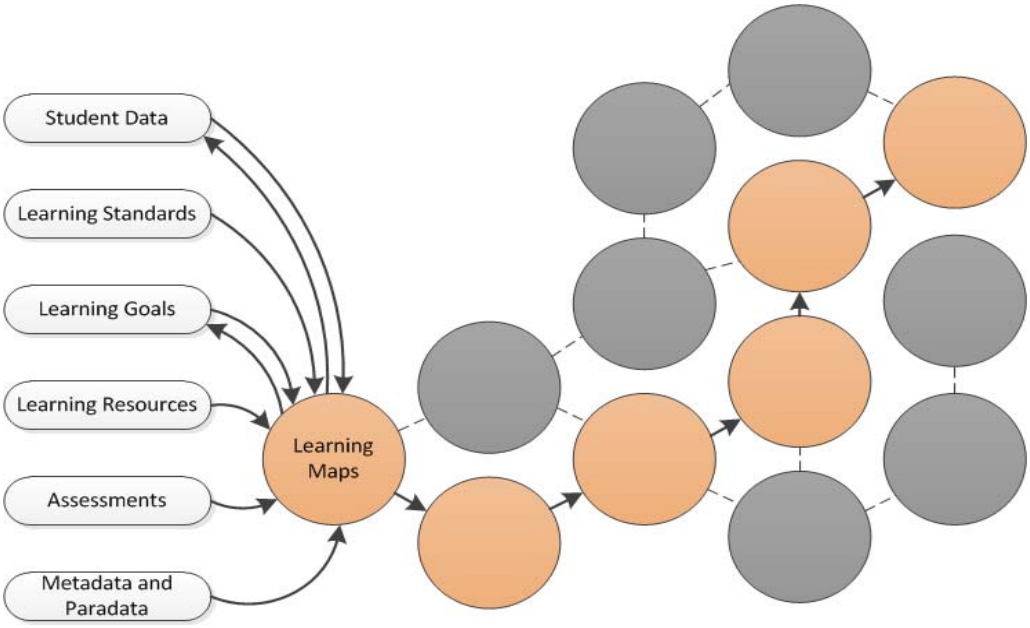


Figure 1: Example of lit learning map nodes.

Further information on interoperability between ISLE applications is available in Exhibit E, Attachment C.

Interoperability with Other ISLE Applications		
Other ISLE Application Examples	**Interoperability Requirements**	**Usage Scenarios**
Assessments Authoring and Delivery	• Assessments authored using the Assessment Authoring and Delivery Tool can be attached to nodes of micro- and macro- learning maps either manually or automatically based on set criteria. • Assessments scored using the Assessment Authoring and Delivery Tool are used to indicate level of student achievement on associated learning maps. • When mastery of a standard is demonstrated through authored assessments, the application highlights the section of the learning map that	A teacher is using a lit learning map to view assessments at the node level.

	refers to those related standards and assessment items. Users can toggle the highlights to be displayed as "Achievement Level" or "Skill Growth." ● "Achievement Level" and "Skill Growth" advancements are accompanied by badge attachment options. ● Automated item scoring within the Assessment Authoring and Delivery Tool corresponds to automated advancement within the associated learning map. ● Both applications share a common appearance and user interface framework.	
Dashboards	● The learning maps will trigger events that will be broadcast by the portal and consumed by the dashboard application. ● The learning map application will consume events triggered by the dashboard application and broadcast by the portal.	A teacher is using the teacher's dashboard to view student data. When the teacher selects an individual student to view in the dashboard the data from the same student is also available as a personal lit learning map.
Open Educational Resources (OER)	To support the ISLE mission and to provide open access to career and education resources, Illinois has established a metadata and paradata store that replicates with the Learning Registry (LR.) The ISLE metadata and paradata schemas are based on Learning Resource Metadata Initiative (LRMI). This ensures integration with the inBloom datastore, and the ISLE applications under development including dashboard, searching, tagging, and assessment authoring and delivery applications. ● OER can be published and tagged by the application in accordance with the ISLE metadata and paradata schema. ● Provide alignment to learning standards so as to announce and describe themselves to the Learning Registry based on the Illinois and inBloom schema ● Use the ISLE metadata and paradata	A teacher is customizing a learning map to include resources they created on behalf of their school district for 5th grade social science. While in the learning map application, they want to attach those resources to the ELA standard in that node.

	vocabularies.	
Content Repository	Integrate with the ISLE content repository to store digital objects as well as the inBloom and ISLE data stores through the appropriate API: ● Student artifacts or artifacts connected to other evidence repository as seen in Exhibit E Attachment C.	A teacher connects a student artifact from the content repository to a learning map node as evidence of student mastery and triggers advancement through the learning map.
Learning Standards	Integrate shared learning standards metadata. Preference will be given to proposals that utilize schemas through a resolution service or the machine readable identifiers provided by the source of the learning standards.	As learning maps are created, machine readable metadata describing the related standards is connected to learning map.

For all required technical specifications see Exhibit E. Further detailed technical specifications and data schema information is available in Exhibit E, Attachment C and on the ISLE website http://www.ilsharedlearning.org/DevDoc/SitePages/Home.aspx.

Currently, inBloom is developing a tool for authoring unlit learning maps. Vendors may propose to build from and expand this tool or propose an independent solution. Either solution must meet the required technical specifications in Exhibit E.

Application Hosting

Hosting options and related costs are to be included with the proposal for:

- ISLE hosting the learning map applications.
- External hosting by the vendor that meets all aforementioned integration requirements.

Application Design

Any application solution must demonstrate modular component design. In other words, a user will have the option to launch components of the application solution via a widget within a portal environment, and can then expand the minimized widget to a full screen view.

Integration with Other Applications, Web 2.0 Tools, and Social Media

The Learning Map and Assessment Authoring apps should provide options to integrate with other widely used education applications and social media. According to a recent survey conducted by the ISLE partners, 61% of educators use some form of social media for professional purposes at least once a week. Of students, grade level middle school and higher, 56% indicated use of social media on a daily basis. This includes education related sites such as Edmodo; networking sites, such as Facebook, Google+, and LinkedIn; content sites, such as YouTube; blogs and microblogs, such as Twitter and Blogger; and content curation tools, such as Pinterest.

Examples of the use scenarios ISLE applications are expected to support are described in the following vignettes:

- A teacher is using Edmodo as the Learning Management System for his class. As a class resource, he posts an unlit learning map and related resources into a folder in his Edmodo library. This folder is then shared with his students and their parents.
- A 5th grade teaching team developed an unlit learning map for a science unit. They would like to engage their Professional Learning Network on Twitter for feedback and suggested technology integration ideas.
- A high school student posts her personal learning map to her LinkedIn profile to demonstrate achievement of a skill set.

Upgrades

As a proposal requirement, vendor will provide an application upgrade plan. Throughout the duration of the contract period, upgrades desired by ISLE will be implemented per the approved timeline.

Additional Technical Requirements

The application will be fully functioning regardless of devices used including:

- PC
- Mobile devices (Android and iPhone)
- iPad
- Tablet
- eReaders

Browsers: Vendors will provide information on browser compatibility with current widely used versions of browsers and mobile device browsers such as:

- Internet Explorer
- Google Chrome
- Safari
- Mozilla FireFox
- iOs
- Android

For more detailed required technical specifications see Exhibit E.

Exhibit C

Assessment Authoring and Delivery Application Requirements

Purpose

To provide applications within the Illinois Shared Learning Environment (ISLE) platform to create and deliver assessments for measuring student growth and to align assessments to specific competencies or learning standards.

Learning standards include Common Core State Standards (CCSS); Next Generation Science Standards (NGSS); and Illinois Learning standards in other content areas, including technical and professional standards such as those for industry credentials.

To achieve the goal of personalized learning, the assessment authoring and delivery applications will be deployed to increase student achievement, to enhance instructional effectiveness, and to reduce current burdens on teachers to create, validate, deliver, score, report, and store student results.

Note: Illinois solutions must address technical capacity differentials of Illinois districts, including rural and metro regions and meet educators where they are in the technology use spectrum by offering districts effective mechanisms to upgrade as their technology access increases.

Assessment Application Users

User views will be determined by the individual's access rights, roles, and organization affiliations. This includes open access, as well as password protected views. ISLE applications, including the assessment authoring and delivery applications, will be available statewide to the following:

State agency and state support organization personnel	STATE
K-12 school district personnel	K12
Workforce development program personnel	WDP
Community program personnel such as after-school programs and work-based learning	CP
Science, Technology, Engineering, and Math (STEM) Learning Exchanges organized to improve delivery of Illinois Pathway Career Cluster programs	STEM

ranging from K to postsecondary The STEM Learning Exchanges are composed of education, business, and community partners	
Parents and guardians	PG
Students attending Illinois public schools or participating in workforce development, STEM Learning Exchanges, or other community programs	STU

Functionality Requirements

The assessment application will build out and provision two broad categories of assessment elements to be accessible to Illinois educators through ISLE:

1 Pre-populated items provided by the vendor including: assessment items (e.g., tasks, question items), evaluation/scoring tools (e.g., answer keys, rubrics), and other supporting resources.

2 Customized assessment items that Illinois ISLE educators will create, store, and share through the Assessment Application. The customized items must be integrated into and share the same access, functionality, and presentation features as the pre-populated items.

All items created by Illinois users will remain as tagged digital objects and applicable artifacts will be stored by ISLE to remain accessible to Illinois users indefinitely.

For ISLE districts, the assessment application will be one of the ISLE-provisioned tools that will provide a unified system of educator apps and data resources across the curriculum.

The Assessment Application will provide the following set of learning tool functions for Illinois ISLE users:

- Accessing and Searching Tools
- Authoring Tools
- Validation and Quality Control Mechanisms
- Delivering Assessment Item Tools
- Delivering Evaluation Tools
- Ratings, Commenting, and Usage Reporting

Detailed descriptions of each set of functions follows.

Accessing and Searching Requirements

The chart below identifies the minimum user access and search requirements. Note that the vendor will be responsible for providing user tools and requirements for pre-populated assessment elements, as well as locally-created, new assessment items

Accessing and Searching Requirements	**STATE**	**K12/WDP**	**STEM**	**CP**	**PG/ STU**
Newly created and pre-populated assessment items	X	X	X	X	
Newly created and pre-populated evaluation/scoring tools	X	X	X	X	X
Item level and item type including: ● Essay ● Extended response ● Fill in the blank ● Labeling ● Matching ● Multiple response ● Multiple-choice ● Other ● Performance task ● Reordering ● Restricted constructed response ● Short answer ● Show your work ● Substitution ● Technology Enhanced Item types (Fraction model, probability spinner, tabbed passage presentation, graphic organizer, drag and drop, cloze, multiple choice with technology functionality, text extraction, etc.) ● True/False ● Visual representation	X	X	X	X	
Standards to select related assessment items	X	X	X	X	

Authoring Assessment Items and Evaluation/Scoring Tools Requirements

ISLE users will be able to save draft assessments, publish final versions, and share validated assessments and evaluation/scoring tools.

Authoring Assessments and Evaluation/Scoring Tools Requirements	STATE	K12/WDP	STEM	CP	PG/ STU
Author, save, and share assessment items	X	X	X	X	
Access to guides for developing assessment items	X	X	X	X	
Ability to author assessment items by selecting and aligning to standards	X	X	X	X	
Option to automate creation of the assessment items based on preferred type of assessment	X	X	X	X	
Ability to categorize authored assessment by district defined usage.		X			
Personal assessment development space for teachers to create, save, and pilot assessment items before sharing with larger community	X	X	X	X	
Author, save, and share evaluation/scoring tools (Ideally, tool authors could drag and drop learning map nodes into the tool)	X	X	X	X	
Access to guides for developing evaluation/scoring tools	X	X	X	X	
Ties in attribution licenses through Creative Commons	X	X	X	X	

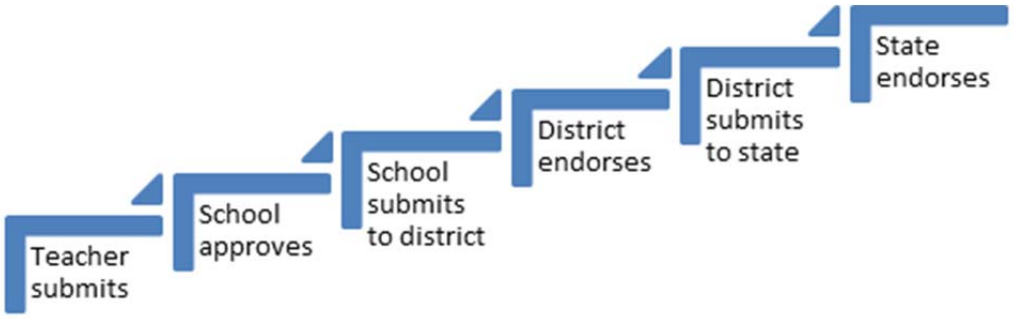
Validation and Quality Control

Validation processes can be determined locally and at the state level. The Assessment Authoring and Delivery application will identify validated and non-validated assessments.

In addition to validation processes, the system will provide quality control mechanisms.

Validation Requirements	STATE	K12/WDP	STEM	CP	PG/ STU
Provides validation process guidance	X	X	X	X	
Provides a workflow process for validation and endorsement of assessment items and evaluation tools at the state , local school district, and STEM Learning Exchange levels	X	X	X	X	
Identifies state-level validated evaluation tools and assessment items	X	X	X	X	
Identifies local validated evaluation tools and assessment items by organization	X	X	X	X	
Shows standards progressions	X	X	X	X	

Workflow Samples



K-12	STEM LE	Other
● Teacher submits ● School approves ● School submits to district ● District endorses ● District submits to state ● State endorses	● Teacher submits ● School approves ● School submits to STEM LE ● STEM LE endorses ● STEM LE submits to state ● State endorses	● Staff affiliated with recognized organization submits ● Organization approves ● Organization submits to regional entity identified as an endorser ● Regional entity endorses ● Regional entity submits to state ● State endorses

Delivering and Scoring Assessments

The assessment authoring and delivery application will provide online and offline scoring options, including real-time storing of assessment results within appropriate data store.

Delivering and Scoring Assessments Requirements	**STATE**	**K12/WDP**	**STEM**	**CP**	**PG/ STU**
Supports both manual and automated evaluation/scoring of assessment items	X	X	X	X	
Provides student view of their assessment items and evaluation/scores, including relevant feedback					X
Includes workflow for collecting evidence and evaluating/scoring of student proficiency	X	X	X	X	

Provides information for delivery options including: ● Class ● Group Large (6+ Members) ● Group Small (3-5 Members) ● Individual ● Multiple Classes ● Pair	X	X	X	X	
Provides multiple delivery methods: ● Online – store and view results ● Printable ● Downloadable ● Offline access to sync back to the system to store	X	X	X	X	
Enables evaluation/scoring of both quantitative and qualitative data	X	X	X	X	
Provides unified access to data across grades and subjects	X	X	X	X	
Enables uploading of student evidence addressing the evaluation/scoring tool criteria and provides area for comments (e.g., photos of a project, document created by the student, video evidencing application of a skill) Allows multiple educators to review and exchange comments on all submissions prior to "acceptance"	X	X	X	X	
Provides a standardized badging system for evaluation tools indicating achievement to a student, parent/guardian, and/or outside partner (this could also be a node on a student facing learning map).	X	X	X	X	X
Provides highlighted section of learning map when student achievement indicates a badge that refers to related standards and assessment items	X	X	X	X	X

Ratings, Commenting, and Usage

The assessment application will offer users the opportunity to rate, comment, and evaluate usage information. The integration requirements section further defines the related paradata requirements. User interfaces will provide for options to narrow, sort, and filter on ratings. Ratings are not limited to the assessment items and evaluation/scoring tools but also to the level of learning standard alignment.

Analytics and Reports

The assessment application will provide online analytics and educator reports providing real-time data on usage and assessment outcomes. These reports will be used to:

- Monitor frequency and extent of use of the application
- Evaluate personalized skill progression through reporting item and collection performance
- Provide real-time data on changes in student achievement over time

Reports Requirements	**STATE**	**EDU/WDP**	**STEM**	**CP**	**PG/ STU**
State-level analytics reports on usage	X				
Analytics and reporting tools on changes in student achievement over time by: ● Individual ● Classroom ● School ● District ● State	X	X	X	X	
Standard reports and ability to create custom reports	X	X	X	X	
Reports of student attainment of specific standards	X	X	X	X	X

User Interface Requirements

Innovative functionality, ease of use, and effective graphical design of the user interface are critical for using the assessment tool to support instruction and to increase student

achievement as well as to assure timely adoption of the tool at the local level. The proposal must show evidence of ease of use including user interface screen shots.

For example, proposals may illustrate UI presentation of features including but not limited to:

- Upload and archive teacher-developed assessment items
- Search and download items by such criteria as grade, subject, element, content tag, or learning style
- Create and store assessment items
- Create and store evaluation tools
- Deliver assessment items
- Enable completion of evaluation tools
- Upload student artifacts
- Score evaluation tools
- Report data based on assessment items and corresponding evaluation tools
- Filter elements using flexible collaboration tools, by districts, instructional teams, teacher organizations, defined affinity groups, or other grouping elements
- Direct download (i.e. export) functionality of assessment items to local networks, computers, or tablet devices for teachers to produce as customized, formative assessments for in-class use
- Interoperability for saving assessment items/evaluation tools/data locally. Detailed interoperability specifications are outlined in Exhibit E.

Branding

Integration with the ISLE portal will include branding the assessment application within the context of ISLE.

Accessibility Requirements

All user interfaces must meet W3C compliance requirements.

The assessments interface for teachers and students will accommodate English Language Learners (ELL) and individuals with disabilities to address recommendations developed by PARCC. Some examples include supporting use of alternative keyboards and adjustable font sizing. The draft PARCC Accommodations Manual is a comprehensive policy document that will support local educators in the selection, administration and evaluation of accommodations for the assessment of students with disabilities and English learners on the PARCC End-of-Year, Performance-Based and optional Mid-Year assessment components. Additional information is available on the PARCC Accessibility Accommodations and Fairness web page http://www.parcconline.org/parcc-accessibility-accommodations-and-fairness.

The Illinois Information Technology Accessibility Act (IITAA) requires Illinois agencies and universities to ensure that their websites, information systems, and information technologies are accessible to people with disabilities. While the Americans with Disabilities Act and Section 504 of the Rehabilitation Act already require the State to ensure accessibility, the IITAA establishes specific standards and encourages the State to address accessibility proactively http://www.dhs.state.il.us/page.aspx?item=32765.

Support

The application will include online user guides accessible 24/7. The guides will be provided to address the following audiences:

State agency and organization personnel
K-12 school district personnel
Workforce development program personnel
Community program staff such as after-school programs and work-based learning
Science, Technology, Engineer, and Math Learning Exchanges organized to improve delivery of Illinois Pathway Career Cluster programs ranging from K to postsecondary. The exchanges are composed of education, business, and community partners.

Support will include any application upgrades and maintenance needed to assure the system is fully functional throughout the duration of the contract period. Fully functional is defined as all functionality is available online 24/7 to all users. Planned maintenance and upgrades will be kept to a minimum. The proposal will include maintenance and upgrade schedule.

Interoperability Requirements

Further information on interoperability between ISLE applications is available in Exhibit E, Attachment C.

Interoperability with Other ISLE Applications		
Other ISLE Application Examples	**Interoperability Requirements**	**Usage Scenarios**
Learning Maps	● Assessments authored using the Assessment Authoring and Delivery Tool can be attached to nodes of micro- and macro- learning maps either manually or automatically based on set criteria. ● Assessments scored using the Assessment Authoring and Delivery Tool are used to indicate level of student achievement on associated learning maps. ● When mastery of a standard is demonstrated through authored assessments, the application highlights the section of the learning map that refers to those related standards and assessment items. Users can toggle the highlights to be displayed as "Achievement Level" or "Skill Growth". ● "Achievement Level" & "Skill Growth" advancements are accompanied by badge attachment options. ● Automated item scoring within the Assessment Authoring and Delivery Tool corresponds to automated advancement within the associated learning map. ● Both applications share a common appearance and user interface framework.	A teacher is using a lit learning map to view assessments at the node level.

Dashboards	● The assessment application will trigger events that will be broadcast by the portal and consumed by the dashboard application. ● The assessment application will consume events triggered by the dashboard application and broadcast by the portal.	A teacher is using the ISLE dashboard to view her class. While in the dashboard application she can access authored assessments that correspond to the performance levels of her students.
Open Educational Resources	● Be published and tagged by the application in accordance with the ISLE metadata and paradata schema. ● Provide alignment to learning standards so as to announce and describe themselves to the Learning Registry based on the Illinois and inBloom schema ● Use the ISLE metadata and paradata vocabularies. ● To support the ISLE mission and to provide open access to career and education resources, Illinois has established a metadata and paradata store that replicates with the Learning Registry. (LR) The ISLE metadata and paradata schemas are based on Learning Resource Metadata Initiative (LRMI). This ensures integration with the inBloom datastore, and the ISLE applications under development including dashboard, searching, tagging, and assessment authoring and delivery applications.	While authoring an assessment for a 5th grade language arts unit, a teacher wants find resources that are aligned to that standard.
Content Repository	Integrate with the ISLE content repository to store digital objects as well as the inBloom and ISLE data stores through the appropriate API: ● Student artifacts or artifacts connected to other evidence repository as seen in Exhibit E Attachment C.	A teacher connects a student artifact from the content repository to an authored assessment related to a learning map node as evidence of student mastery and triggers advancement through the learning map.

Learning Standards	Integrate shared learning standards metadata. Preference is given to applications that will utilize schemas through a resolution service or the machine readable identifiers provided by the source of the learning standards.	As assessment collections are created, machine readable metadata describing the related standards is connected to the collection.

For all required technical specifications see Exhibit E. Detailed data schema information is available in Exhibit E, Attachment C and on the ISLE website http://www.ilsharedlearning.org/DevDOC/SitePages/Home.aspx.

Application Hosting

Hosting options and related costs are to be included with the proposal for:

- ISLE hosting the assessment applications
- External hosting by the vendor that meets all aforementioned integration requirement

Application Design

Any application solution must demonstrate modular component design. In other words, a user may have the option to launch components of the application solution via a widget within a portal environment, and can then expand the minimized widget to a full screen view.

Integration with Other Applications, Web 2.0 Tools, and Social Media

According to a recent survey conducted by the ISLE partners, 61% of educators use some form of social media for professional purposes at least once a week. Of students, grade level middle school and higher, 56% indicated use of social media on a daily basis. This includes education related sites such as Edmodo; networking sites such as Facebook, Google+, and LinkedIn; content sites such as YouTube; blogs and microblogs such as Twitter and Blogger; and content curation tool such as Pinterest. The app should provide options to integrate with other widely used education apps and social media.

Examples of the use scenarios ISLE applications are expected to support are described in the following vignettes:

- A high school student posts her badges earned through a delivered assessment to her LinkedIn profile as evidence of her proficiency in conducting research.

- A 9th grade teacher creates an assessment for writing personal narratives. The students use a blogging to post the assignment. Blog entry is the students' writing artifact.

Upgrades

As a proposal requirement, vendor will provide an application upgrade plan. Throughout the duration of the contract period, upgrades desired by ISLE will be implemented per the approved timeline.

Additional Technical Requirements

The application will be fully functioning regardless of devices used including:

- PC
- Mobile devices (Android and iPhone)
- iPad
- Tablet
- eReaders

Browsers:

Vendors will provide information on browser compatibility with current widely used versions of browsers and mobile device browsers such as:

- Internet Explorer
- Google Chrome
- Safari
- Mozilla FireFox
- iOs
- Android

For more detailed Technical Requirements see Exhibit E.

Exhibit D

Unified Solution Requirements

Purpose

To provide all of the requirements for both the Learning Map and Assessment Authoring and Delivery applications through one packaged solution.

Unified Solution for Learning Map and Assessment Authoring and Delivery Applications

A unified solution is defined as one application that incorporates the functionality of both the Learning Map Application and the Assessment Authoring and Delivery Application. Unified solutions must fully address all of the requirements of both the Learning Map and Assessment Authoring and Delivery Applications, as more fully described in Exhibits B and C.

Application Design

Any application solution must demonstrate modular component design. For example, a user may have the option to launch components of the application solution via a widget within a portal environment, and can then expand the minimized widget to a full screen view.

The unified solution will allow for each separate function (Learning Map and Assessment Authoring and Delivery) to be accessible as separate widgets within a portal environment.

Exhibit E

ISLE Technical Specifications

These specifications apply to the development of the Learning Map and Assessment Applications, as well as other Applications developed or customized for deployment through ISLE (collectively, "Applications").

A. inBloom Compatibility

- The Applications will utilize the inBloom datastore as the source of all validated data about organizational structures, schools, and employees in school districts integrating data at the district level with ISLE ("ISLE Districts"), as well as information on student enrollment, biographical and achievement data in ISLE Districts. Therefore, vendors should refer to the inBloom Technology Application Developer Documentation for guidance on required specifications (https://www.inbloom.org/sites/default/files/docs-developer/index.html).
- Separate workstreams in the ISLE project will ensure that all ISLE Districts have integrated data to the inBloom data store, and that the data is appropriately validated prior to uploading to the inBloom datastore. The proposed architecture for data integration with inBloom is shown on Attachment A.
- The Applications must utilize the inBloom data-store logical model[1]. The vendor must identify and support any custom data elements needed for utilization of its application. Any custom data elements must be fully documented if they might be useful to other applications.
- The Applications must utilize the inBloom Application Programming Interface (API) [2] to transfer ISLE District data to and from the inBloom data store. The inBloom REST API provides both system resources[3] that focus on current user and session operations, and data resources[4] that enable authorized users to have role-based access to data.
- inBloom is in the process of establishing a vendor certification process to ensure that vendors adhere to inBloom's technical requirements. Vendors must participate in and

receive certification through this process. More information about the inBloom Certification process is expected to be released in late spring/early summer 2013.

B. ISLE Portal Compatibility

- ISLE's scope includes development and maintenance of a centralized portal that will provide a unified user-experience while enabling users to personalize and save preferences. The portal will incorporate a presentation framework for all ISLE applications, including: 1) page header; 2) page footer; 3) site navigation panel; and 4) user interface panel.

- The ISLE development team is still determining the portal software that will be utilized for the centralized portal. A decision will be made and a portal will be piloted and made available for usage by the Applications consistent with the proposed development and deployment schedule in this RFP. Potential portal software packages include Liferay, uPortal, as well as other viable solutions.

- A critical consideration for the portal service and the delivery of the Applications within the Portal is that users will be accessing ISLE through both: a) traditional computers; and b) mobile devices such as tablets and smart phones.

- The Applications must support delivery through the ISLE portal using one of four potential approaches:

    1. A simple encapsulation approach that renders web pages generated by an external service provider within the user's presentation, for example using the HTML IFrame that provides nested browsing context. This approach is less desirable than approach #2, but may be necessary to incorporate pre-existing application components. Applications delivered using this approach must fulfill requirements to materialize a web-proxy portlet instance as described in section E: ISLE Development Infrastructure.

    2. (Preferred) The delivery of the application through the portlet technology specification, JSR 286. This specification exposes to users portal windows which facilitate common frame level attributes, interaction mechanisms, and controls (resizing, minimizing, maximizing).

    3. The JSR 286 portlet technology specification may be extended using the OASIS Web Services for Remote Portlets (WSRP)[5] standard. This extension,"*defines a set of interfaces and related semantics which standardize interactions with components providing user-facing markup, including the processing of user*

interactions with that markup. This allows applications to consume such components as providing a portion of the overall user application without having to write unique code for interacting with each component" [6] . The Web Services for Remote Portlets 1.0 Primer[7] provides detailed usage scenarios and typical interactions required to implement a web services protocol for aggregating content and interactive web applications from remote sources

4. A Service Orientated Architecture (SOA) as described by the OASIS SOA Reference Model TC in their publication "Reference Architecture Foundation for Service Oriented Architecture Version 1.0 Committee Specification 01"[8] . This models an abstract architecture independent of the technologies, protocols, and products that may be employed to implement a specific solution. This publication provides practical guidance, logical framework, and an overview of how loosely coupled service components congeal into an operational ecosystem. SOA is a paradigm enabling the exchange of value between independently acting participants that are subject to rules of engagement.

- The ISLE portal service will establish an interface for four levels of user access as shown in Attachment B:
    - **Level 1—Anonymous User Access, through the ISLE website:** www.ilsharedlearning.org. The website will provide general public access to information on ISLE and applications that do not require the establishment of a user account or need integrated data.
    - **Level 2—Self-declared Identity account access:** A Level 2 user will set up his or her own account with no processes to confirm the user's identity or organizational role. Level 2 users will have read-only, save-only, and download-only access.
    - **Level 3—Verified Identity account access:** A Level 3 user will set up his or her own account and will be verified as a legitimate member of an organization or group. Level 3 users will have all access for Levels 1 and 2, plus the ability to comment, publish, and participate in collaboration communities. Level 3 users will not have access to personally identifiable information contained within the inBloom data store.
    - **Level 4—Role-based Access to PII:** Mainly to educational institution administrators, teachers, principals, students, and families. Level 4 users will have access for Levels 1-3, plus access to personally identifiable information (PII)

based on the user's appropriate role within an organization and in accordance with all applicable privacy laws.

- The Applications must be designed to support each type of user access. Examples of the four types user access for the Assessment Application are described in the following vignette:

User Level	Examples of ISLE Usage
1	• Joan, a high school math teacher, hears about ISLE at a manufacturing expo. Afterward, she accesses the ISLE website for basic information on ISLE. She is able to find information on the capabilities available through the assessment authoring and delivery tool.
2	• Joan establishes an ISLE account, with username and password, which requires her to self-identify as a teacher at an Illinois school district. With the account set up, she can author an assessment using the ISLE authoring tool and save that to her own account, but is not able to publish it to the broader ISLE community. • Sheila, an HR Director, establishes an ISLE account, which requires her to identify as a business partner for the Manufacturing STEM Learning Exchange. With the account set up, she can search for manufacturing education resources using the content discovery tool and can save those searches. • Elsa, a 9th grade student, establishes an ISLE account, with username and password. She is able to create and save a personalized learning plan using ISLE tools, and explore career opportunities and information in the field of manufacturing (her career area of interest).
3	• Joan's identity as a high school math teacher has been verified through a teacher identity verification process established by ISLE. Now, she can upload and share the Common Core-aligned assessments she has created with the broader ISLE community. She can join a statewide collaboration community for high school math educators. • Sheila's identity has been verified by the Lead Entity for the Manufacturing Learning Exchange. Now, she can upload work-based learning assessments that have been created by her company, and list the availability of her company's resources on the STEM Resource Locator and Scheduler application. • Elsa's identity has been verified by her school district. Now, her Personalized

	Learning Plan reveals courses within a Manufacturing Program of Study available through her high school and community college district.
4	• Joan's school district has now integrated its data with ISLE. She can now administer and score the assessments, she has created using ISLE applications, and the performance information from those assessments is incorporated into performance dashboards and learning maps for her students. • Sheila has been approved by Elsa's school district to administer a summer work-based learning experience for Elsa. Sheila can upload information on Elsa's work-based learning performance to Elsa's learning map. Sheila is authorized to have certain views of Elsa's school performance information and is able to have web-based conferences with Elsa to discuss her Personalized Learning Plan. • Elsa's school district has now integrated with ISLE. Her Personalized Learning Plan incorporates her grades and assessment performance information and indicates to Elsa whether or not she is "on track" to successfully progress through her manufacturing program of study.

C. ISLE Directory Services and User Authentication

- The Applications must utilize ISLE's identity management and user authentication services and protocols. To accommodate User Levels 2 – 4, as described above, ISLE will have two approaches to identity management and user authentication:

    1. **ISLE Directory:** For Level 2 and 3 Users, ISLE will maintain a directory service for all such users that establishes an authoritative identity for all ISLE applications and maintains the profile attributes (including whether the User is Level 2 or 3) in an ISLE maintained registry.
    2. **LEA Directory Integrated with inBloom:** For Level 4 Users, ISLE will centrally federate Authentication, Authorization, and Access (AAA) controls, and presume that local educational agencies (LEAs) are the authoritative source with respect to authorized users and user access rights.

- For Level 2 and 3 users, ISLE will utilize the Security Assertion Markup Language (SAML) v2.0[9] assertions and protocols to communicate user authentication, entitlement, and attribute information to applications within the ISLE environment.

- For Level 4 users, ISLE will rely on inBloom's Identity Management processes and protocols (see documentation presented in the "Product and Services Overview" [10] , [section 2.3] Identity Management). This is referenced with a link to the Internet Engineering Task Force (IETF) document "The OAuth 2.0 Authorization Framework, draft-ietf-oauth-v2-31" (which has been superseded by "RFC 6749", which should be considered as the most definitive current technical reference). The inBloom model utilizes LEA directory services to facilitate all identities that will access the inBloom data-store based on their declared role using the "*Federated Authentication Model*". This will govern the user's permissions within the inBloom environment and enable FERPA-compliant access to Personally Identifiable Information (PII). "Figure 29, *inBloom Architecture Diagram*"[11] within the "*Developer Documentation*"[12] shows *SimpleIDP* as the identity provider for inBloom, and the IDPs for the state and district education agencies using this inBloom deployment. The "User Authentication in inBloom Technology" section of the same document further states:
    - *"inBloom authenticates users through a combination of OAuth 2.0 and SAML 2.0 protocols to enable web-based authentication and authorization, including inBloom-wide single sign-on (SSO). OAuth is an authentication and authorization process for both the application and the user. That is, the application must authenticate to the API and the user must authenticate to their user directory. After both the user and the application authenticate, not only does the API recognize the application and trust the user, but the application becomes authorized to access the API on behalf of the user, through the effective role-based permissions that a user has when using the inBloom application"*
- The inBloom "*Developer Documentation*", [Section: *Common Application Features*], [Subsection: *Adding User Authentication to Applications*], (paraphrased,) emphasizes that "unauthenticated users" must first login through an integrated process that uses SAML to interact with the LEA directory service or single-sign on solution to establish a session and obtain shared tokens that enable the session to use one or more applications. Applications that use the REST API provided by inBloom to access the Data-Store service, do so "*on behalf of an authenticated user*" and must be compliant with both the "*Terms of Use*"[13] and "*Privacy Policies*"[14]. [Section: *Common Application Features*], [Subsection: User Authentication Process Overview], states: "inBloom uses SAML to communicate with an education organization's IDP to authenticate a user and generate an OAuth token for the API session.", and further describes the hybridized OAuth/SAML implementation with the diagram, "*Figure 13. An Overview of the OAuth Application Workflow*"[15] , and a narrative an outline of the steps shown in the diagram. The OAuth V2.0 Authorization Framework is referenced with a link to the Internet

Engineering Task Force (IETF) document "The OAuth 2.0 Authorization Framework, draft-ietf-oauth-v2-31" [16] (which has been superseded by "RFC 6749"[17], which should be considered as the most definitive current technical reference).

The following security controls will be strictly enforced by ISLE:

- All traffic between the ISLE, inBloom Platform and the SEA/LEA directories will be encrypted
- All login activities that include the user Id and password will be encrypted
- All login activity (both success and failure) will be logged and reviewed
- All failed access attempts to data will be logged for audit purposes and to identify access model issues
- All application and user access to the inBloom API will require authentication via ISLE
- No anonymous access will be allowed to the InBloom API.
- Controls will be established to ensure that session identification mechanisms will be protected to ensure that a session cannot be compromised

D. Guidelines for Application Layout and Style

- The ISLE team will establish guidelines for thematic page layout and style for application user-interface designers and portlet implementers. These guidelines will address accessibility requirements and thematic styling guidelines that will be applied to all applications customized for ISLE deployment. These guidelines will be provided to the selected Application vendor upon contract execution.

- To the maximum extent feasible, the Applications must be designed in adherence with the ISLE application layout and style guidelines.

E. ISLE Development Infrastructure

- The ISLE development infrastructure will provide integration and delivery support for applications. The infrastructure will provide services at 3 primary levels. 1) development support; 2) quality assurance; and 3) production

- The development support tier will provide services that enable development teams to administer their development context, facilitate integration with the inBloom sandbox environment, and enables physical computing resources to be made available as a segregated logical enterprise environment that may contain one-to-many virtual computers on an isolated network segment. Additionally, the infrastructure will provide resources that will be used to manage source code versioning, continuous integration, a

build package repository, and will be also serve as the gatekeeper for promotion of application elements to the next level of the development infrastructure.

- The quality assurance tier will consist of operational processes and procedures overseen by the ISLE project team and not by application development team members. The purpose of this tier is to enable a build, consisting of the ISLE services and applications, to be independently presented to developers and to a sampling of end-users, in order for them to collaborate, test, and verify that the requirements for new features or changes made for fixes are being satisfied. This is measured using a controlled set of production-like data, which is needed to fully exercise the breadth and depth of the system functionality. When this process concludes successfully, it enables the candidate build artifacts to be migrated to the production level of services.

- The production level consists of the actual hardware and software that represent the currently available ISLE system, including all services and applications. Real world end-users interact with the system at this level.

- Development teams may opt to develop components in any fashion, using any or all of their own infrastructure support services and facilities that they customarily utilize to perform their development tasks. The core requirement for integrating components directly with the ISLE system is that those components must be submitted to the centrally managed development infrastructure for testing and deployment on the ISLE infrastructure.

- Applications that are integrated using the simple encapsulation methodology, described in Section B, subpoint 1 of this specification, must fulfill the configuration requirements needed to materialize a web-proxy portlet instance. Additionally, all metadata attributes should be provided that are required to consume and render the resulting content and user-interfaces within the ISLE portal framework.

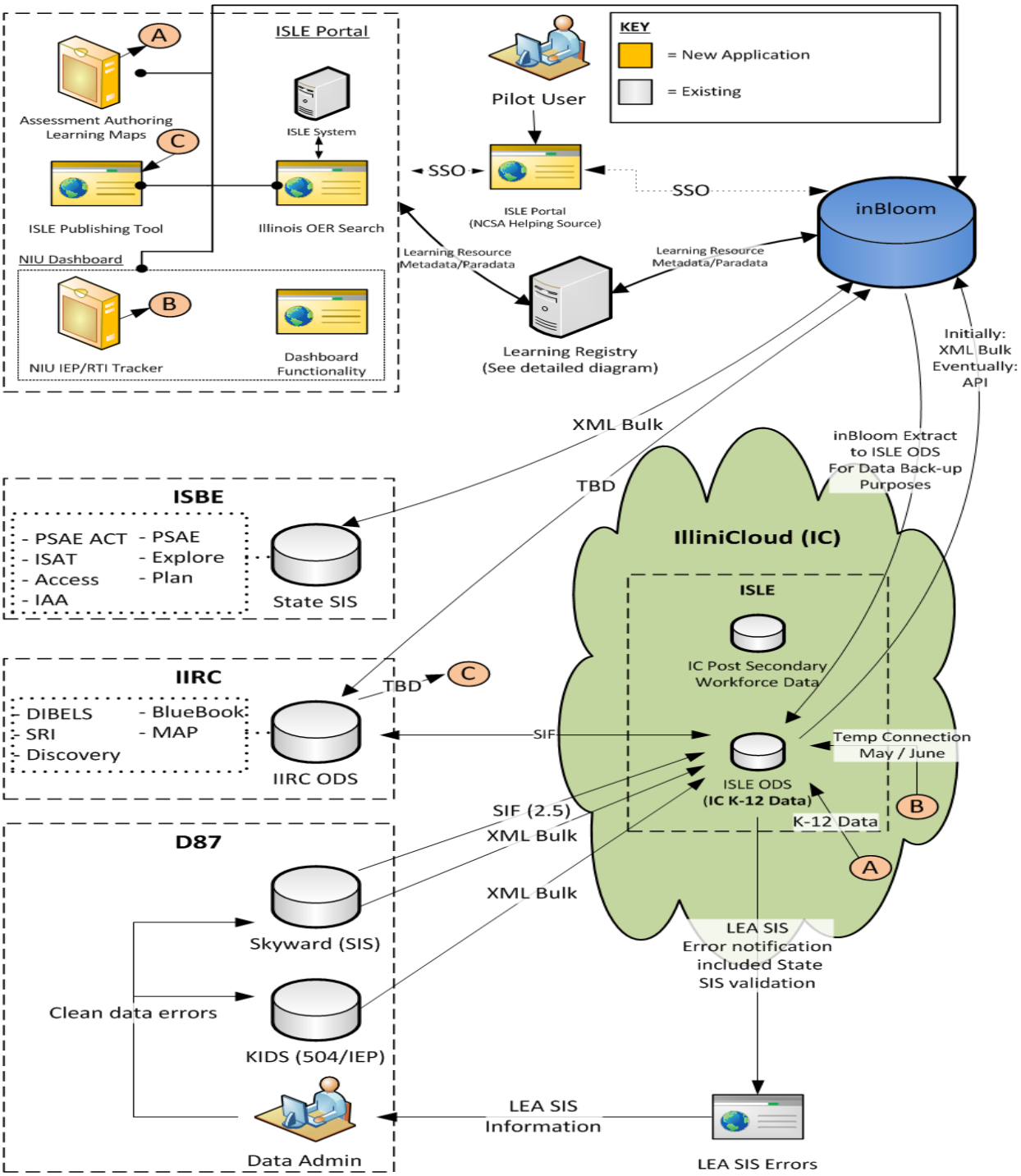
---

[1] https://www.inbloom.org/sites/default/files/docs-developer/data_model.html
[2] https://www.inbloom.org/sites/default/files/docs-developer/rest_api_resources-all.html
[3] https://www.inbloom.org/sites/default/files/docs-developer/rest_api_resources-system.html
[4] https://www.inbloom.org/sites/default/files/docs-developer/rest_api_resources-data-v1.2.html
[5] https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrp
[6] https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrp#overview

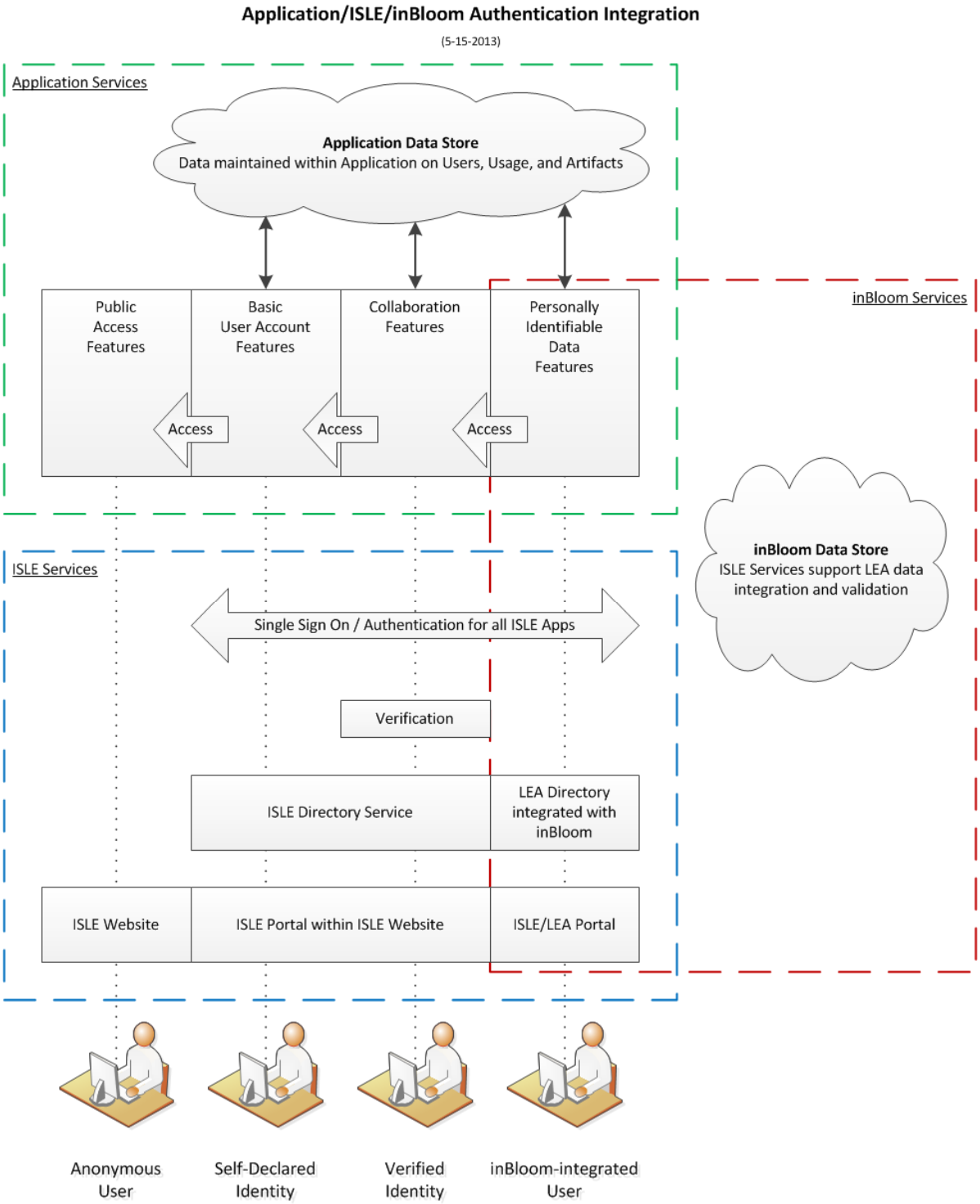
[7] https://www.oasis-open.org/committees/download.php/21178/wsrp-primer-1.0.html
[8] http://docs.oasis-open.org/soa-rm/soa-ra/v1.0/cs01/soa-ra-v1.0-cs01.html
[9] https://www.oasis-open.org/committees/download.php/13525/sstc-saml-exec-overview-2.0-cd-01-2col.pdf
[10] https://www.inbloom.org/sites/default/files/inBloom-product-and-services-overview.pdf
[11] https://www.inbloom.org/sites/default/files/docs-developer/images/architecture.png
[12] https://www.inbloom.org/sites/default/files/docs-developer/doc-2b03fc2a-19c2-4ebd-a0a0-b660a34b7384.html
[13] http://www.inbloom.org/terms-of-use
[14] http://www.inbloom.org/privacy-policy
[15] https://www.inbloom.org/sites/default/files/docs-developer/images/oauth-flow.png
[16] http://tools.ietf.org/html/draft-ietf-oauth-v2-31
[17] http://tools.ietf.org/html/rfc6749

Attachments

Attachment A



Attachment B



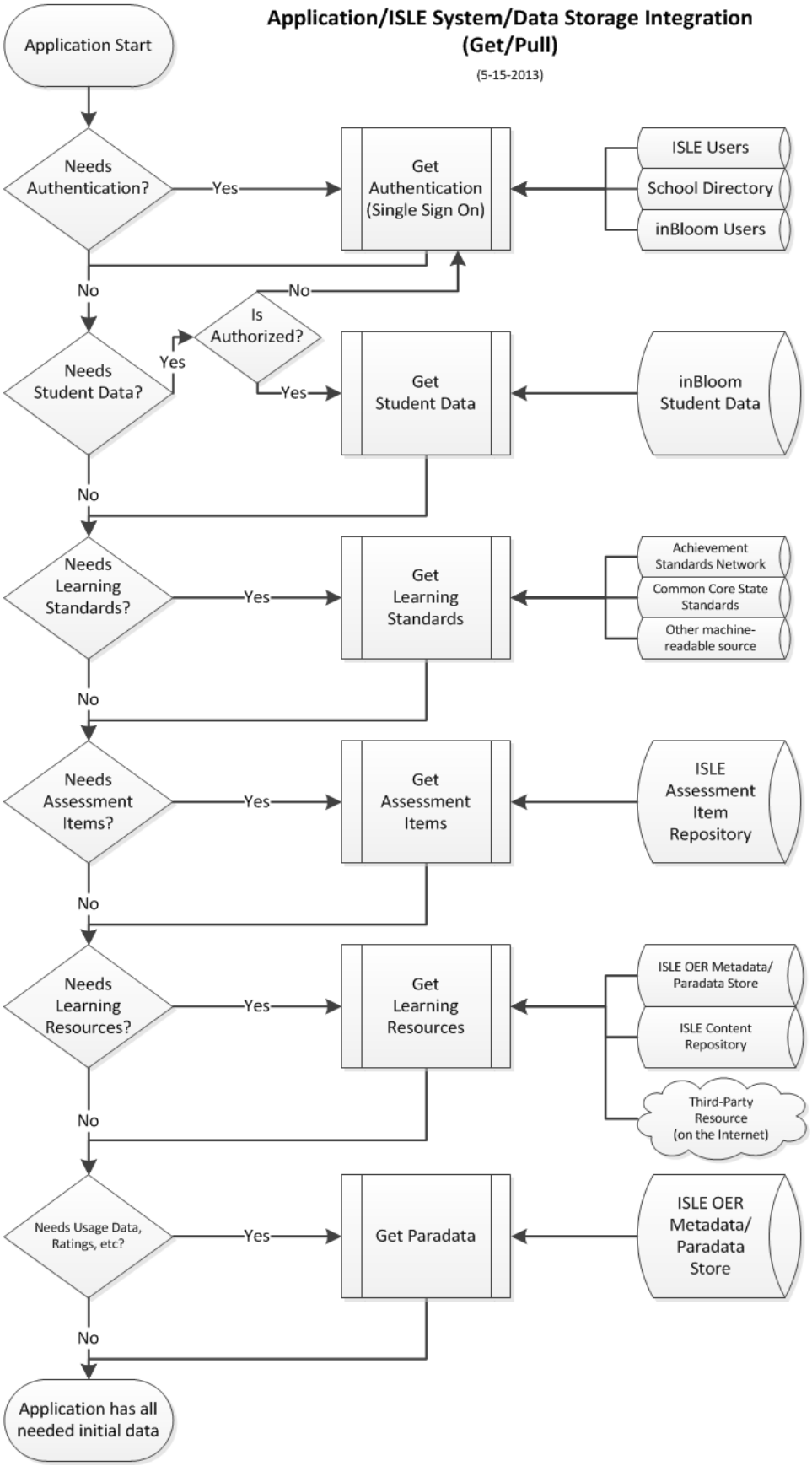
Attachment C

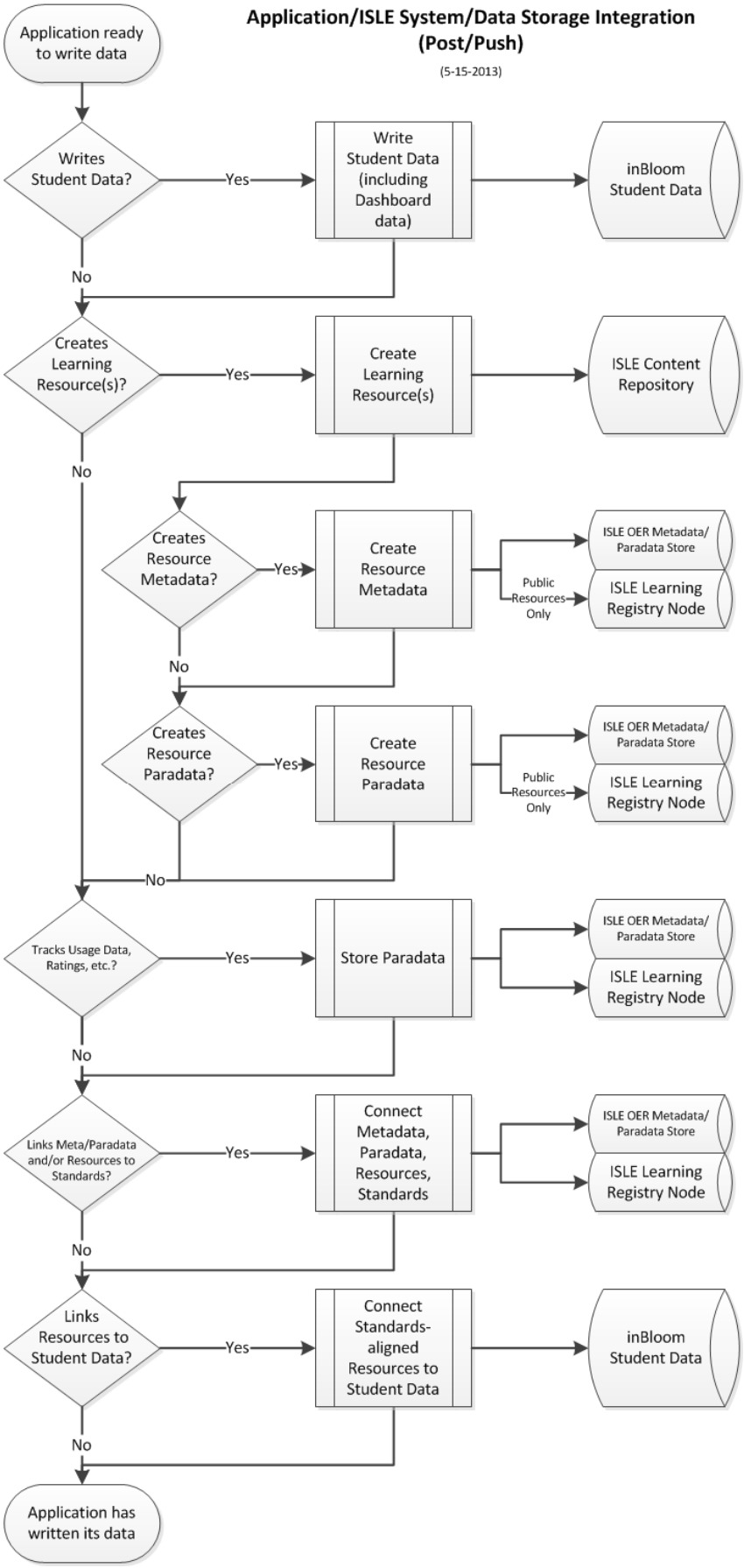
Integration Scenario Diagrams

The following diagrams help to visualize how selected ISLE applications will integrate with ISLE and InBloom.

The diagrams that follow address the integration scenarios listed below:

- Does the app need to authenticate users to allow role-based access?
- Does the app need to pull in student data?
- Does the app need to post back student data?
- Does the app need to post back student data that dashboards will need?
- Does the app need to pull in resources of any type?
- Does the app create new resources that need to be stored?
- Does the app create metadata for resources that needs to be stored?
- Does the app create paradata that needs to be stored?
- Does the app create resources that the public should not see?
- Does the app need to use learning standards to create relationships to resources or paradata?


Application/ISLE System/Data Storage Integration
(Get/Pull)
(5-15-2013)
Application Start
Needs Authentication?
Yes
Get Authentication (Single Sign On)
ISLE Users
School Directory
inBloom Users
No
No
Is Authorized?
Needs Student Data?
Yes
Yes
Get Student Data
inBloom Student Data
No
Needs Learning Standards?
Yes
Get Learning Standards
Achievement Standards Network
Common Core State Standards
Other machine-readable source
No
Needs Assessment Items?
Yes
Get Assessment Items
ISLE Assessment Item Repository
No
Needs Learning Resources?
Yes
Get Learning Resources
ISLE OER Metadata/ Paradata Store
ISLE Content Repository
Third-Party Resource (on the Internet)
No
Needs Usage Data, Ratings, etc?
Yes
Get Paradata
ISLE OER Metadata/ Paradata Store
No
Application has all needed initial data


Application/ISLE System/Data Storage Integration
(Post/Push)
(5-15-2013)
Application ready to write data
Writes Student Data?
Yes
Write Student Data (including Dashboard data)
inBloom Student Data
No
Creates Learning Resource(s)?
Yes
Create Learning Resource(s)
ISLE Content Repository
No
Creates Resource Metadata?
Yes
Create Resource Metadata
ISLE OER Metadata/ Paradata Store
Public Resources Only
ISLE Learning Registry Node
No
Creates Resource Paradata?
Yes
Create Resource Paradata
ISLE OER Metadata/ Paradata Store
Public Resources Only
ISLE Learning Registry Node
No
Tracks Usage Data, Ratings, etc.?
Yes
Store Paradata
ISLE OER Metadata/ Paradata Store
ISLE Learning Registry Node
No
Links Meta/Paradata and/or Resources to Standards?
Yes
Connect Metadata, Paradata, Resources, Standards
ISLE OER Metadata/ Paradata Store
ISLE Learning Registry Node
No
Links Resources to Student Data?
Yes
Connect Standards-aligned Resources to Student Data
inBloom Student Data
No
Application has written its data

ISLE Integration and Schema Requirements Chart

The chart below introduces the key integration requirements for selected ISLE applications:

Integration Requirements	Schema and Other Requirements	Integration
Identity Integration		
• ISLE will provide a federated approach to single sign on (SSO) and identity management service that meets inBloom integration requirements.	ISLE and InBloom identity integration using SAML 2.0 http://www.ilsharedlearning.org/DevDOC/SitePages/SSO.aspx	SSO
ISLE Dashboards		
• Dashboard applications for teachers, administrators, and students will trigger events that will be broadcast by the portal and consumed by other applications within the portal environment, including the learning map and assessment authoring apps. In turn, applications such as the learning maps and assessment authoring tools will trigger events that will be broadcast by the portal and consumed by the dashboard application. The values that update the dashboard such as student achievement data, should also update the information on the Learning Map or Assessment Authoring tool.	Web services http://www.ilsharedlearning.org/DevDOC/SitePages/Dashboards.aspx	API - developed by application vendor API - ISLE Dashboard application
InBloom and ISLE Data stores		
• Any and all applications developed for ISLE will utilize the InBloom API and data store for retrieving and updating student data for direct application integration.	inBloom Data Model and Schemas https://www.inbloom.org/developer-documentation	API - inBloom
• If needed, some applications developed for ISLE may utilize an ISLE API for retrieving and updating student data for direct application integration.	ISLE API Schema Extension (in addition to the inBloom Schema). http://www.ilsharedlearning.org/DevDOC/SitePages/Home.aspx	API- ISLE

ISLE Educational Resources Store for Learning Registry Replication		
• Resources created through integrated applications will be tagged and published using metadata, related vocabularies, and paradata as identified with the ISLE schemas. ISLE will offer APIs to retrieve and publish metadata and paradata. • Resources created through integrated applications will be tagged and published using metadata, related vocabularies, and paradata as identified with the ISLE schemas. ISLE publishes resources to the Illinois Learning Registry (LR) Node for replication to ensure InBloom applications and ISLE mutually benefit from resource sharing. Further, all related digital objects (i.e. assessment items, assessments, and other learning objects including learning map components) that are tagged will be stored within the ISLE content repository.	LRMI schema adopted by Schema.org With adaptations for Race-to-the-Top states alignment. The schema is expected to be expanded over time. The most current schemas for ISLE metadata and paradata are listed in table below. ISLE Metadata: http://www.ilsharedlearning.org/DevDOC/SitePages/OERMetadata.aspx ISLE Paradata: http://www.ilsharedlearning.org/DevDOC/SItePages/OERParadata.aspx OER API: http://www.ilsharedlearning.org/DevDOC/SitePages/OERAPI.aspx	API - ISLE
ISLE Content Repository		
• Related digital objects (i.e. assessment items, assessments, and other learning objects including learning map components) that are tagged will be stored within the ISLE content repository.	The content repository will support a variety of file types. File size may be limited. http://www.ilsharedlearning.org/DevDOC/SitePages/ContentRepository.aspx	API - ISLE

References

Achieve

- EQuIP Rubric - http://www.achieve.org/EQuIP

Achievement Standards Network

- http://asn.jesandco.org/

InBloom

- InBloom – http://www.inbloom.org
- Data Model and Schemas - https://www.inbloom.org/developer-documentation
- Developer Documentation https://www.inbloom.org/developer-documentation

Illinois Pathways Virtual Learning Research Project

- Open Educational Resources and Open Source Technologies: Applicability to Career and Technical Education and Workforce Development Programs: Draft, June 30, 2012 http://www.illinoisworknet.com/vos_portal/STEM/en/Resources/Research/

Illinois Shared Learning Environment Developer Documentation

- ISLE Developer Documentation (home) - http://www.ilsharedlearning.org/DevDOC/SitePages/Home.aspx
- ISLE Portal - http://www.ilsharedlearning.org/DevDOC/SitePages/Portal.aspx
- ISLE Identity Management - http://www.ilsharedlearning.org/DevDOC/SitePages/SSO.aspx
- ISLE Dashboards - http://www.ilsharedlearning.org/DevDOC/SitePages/Dashboards.aspx
- ISLE OER Metadata - http://www.ilsharedlearning.org/DevDOC/SitePages/OERMetadata.aspx
- ISLE OER Paradata - http://www.ilsharedlearning.org/DevDOC/SItePages/OERParadata.aspx
- ISLE OER EQuIP Rubric SKOS and Paradata - http://www.ilsharedlearning.org/DevDOC/SitePages/OERRubrics.aspx
- ISLE OER API - http://www.ilsharedlearning.org/DevDOC/SitePages/OERAPI.aspx
- ISLE Content Repository - http://www.ilsharedlearning.org/DevDOC/SitePages/ContentRepository.aspx
- ISLE Learning Standards - http://www.ilsharedlearning.org/DevDOC/SitePages/LearningStandards.aspx

Learning Registry

- Learning Registry http://www.learningregistry.org/
- Learning Registry Paradata Specification 1.0 https://docs.google.com/a/ilsle.net/document/d/1IrOYXd3S0FUwNozaEG5tM7Ki4_AZPrBn-pbyVUz-Bh0/edit?usp=drive_web
- Learning Registry Paradata Cookbook https://docs.google.com/a/ilsle.net/document/d/1lggCnowWsDgQxrNjYRAgh2KNwKfq-MV8vLJzRXbAaos/edit?usp=drive_web#heading=h.qutukrtrq1c
- LR Paradata in 20 Minutes or Less https://docs.google.com/a/ilsle.net/document/d/1QG0lAmJ0ztHJq5DbiTGQj9DnQ8hP0Co0x0fB1QmoBco/edit?hl=en_US
- Modeling Paradata and Assertions as Activities V2.0.1 https://docs.google.com/a/ilsle.net/document/d/19ZkVpxQn1O1dLhCZClkQkzvypziBI7gBytszTxgXmX0/edit#

Learning Resource Metadata Initiative

- Learning Resource Metadata Initiative http://www.lrmi.net/

Race to the Top States Reform Support Network

- http://www2.ed.gov/about/inits/ed/implementation-support-unit/tech-assist/index.html

Schema.org

- http://schema.org/

Race to the Top States Reform Support Network

- http://www2.ed.gov/about/inits/ed/implementation-support-unit/tech-assist/index.html

States Common Core Standards

- Official Identifiers and XML Representation http://www.corestandards.org/common-core-state-standards-official-identifiers-and-xml-representation

Illinois Pathways Virtual Learning Research Project

- Open Educational Resources and Open Source Technologies: Applicability to Career and Technical Education and Workforce Development Programs: Draft, June 30, 2012 http://www.illinoisworknet.com/vos_portal/STEM/en/Resources/Research/

Exhibit F

Minimum Standard

All respondents must demonstrate that they meet the following minimum standard. Noncompliance with the standard will result in disqualification of the vendor's bid. A section of the Vendor's response to Section 1.3 of the RFP must describe the vendor's ability to comply with ISLE technical standards.

Minimum Standard	Evidence Required to Demonstrate Compliance
Proposed technical approach will comply with all ISLE technical standards	A description of the vendor's proposed technical approach demonstrating that the vendor can adhere to all ISLE technical standards, including, but not limited to, ability to utilize the ISLE data model, ability to deploy the application within the ISLE SSO/portal environment, ability to utilize ISLE identity management services, and ability to integrate with the inBloom API for data interoperability

Exhibit G

Responsiveness Elements

Note: The same responsiveness elements will be used for all three types of proposals: those only for the Assessment Application, those only for the Learning Map Application, and those for the Unified Solution.

Responsive Element	Maximum Points
The quality of the vendor's proposed solution for addressing the base scope requirements (other than the ISLE technical specifications), including: ● Demonstrated understanding of the goals and overall objectives for ISLE ● Quality of proposed approach to user engagement and feedback ● The vendor's plan for working collaboratively with the other ISLE partners to achieve an effective deployment ● Overall quality of proposed approach to the application(s)	**35**
The quality of the vendor's proposed approach for addressing the ISLE technical specifications	**10**
The quality of the vendor's proposed solution for addressing all of the applicable Extended Scope Requirements	**10**
The vendor's experience successfully deploying applications and services similar to the proposed application(s) for state education agencies or school districts	**25**
The qualifications and abilities of personnel proposed to be assigned to perform the services	**10**

Exhibit H

Pricing Format

1. Provide proposed flat fee for the development of the detailed project plan and technical specifications due on or around September 15, 2013 (the "Specification Fee"):

2. Describe the basis for the proposed Specification Fee:

3. Provide maximum cost for performance of the Base Scope, as defined in Section 1.2 of the RFP, through June 30, 2016, which cost shall be inclusive of the Specification Fee (the "Maximum Base Scope Cost"). The Maximum Base Scope Cost cannot exceed $1,500,000.

Note: The Maximum Base Scope Cost will serve as the basis for determining the Price points in Section B.5 of the RFP.

4. Describe the fee structure and method for invoicing Vendor's costs to perform the Base Scope:

5. Describe proposed pricing arrangements for addressing the Extended Scope requirements during the initial award term and in any renewal terms:

6. Describe the general anticipated approach to pricing during any renewal term (e.g., per site license, time and materials, etc.):

7. Provide a not-to-exceed amount for the entire potential renewal term, from July 1, 2016 through June 30, 2022. The not-to-exceed amount should be based on the assumption that University will have available funding for full statewide deployment to all Illinois school districts during the renewal term:

Exhibit I

University Specific Terms and Conditions

Definitions:

"Agreement" shall mean and refer to the contract entered into between University and the Vendor for the performance of the Services. The Agreement shall include, without limitation, the terms set forth in this Exhibit I.

"Parties" shall mean and refer to the Vendor and University. "Party" shall mean and refer to either the Vendor or University.

"Project Schedule" shall mean the schedule for the Services included within the Proposal.

"Proposal" shall mean and refer to the proposal approved University for inclusion in the Agreement, based upon the proposal submitted by the Vendor in accordance with the RFP.

"Services" shall mean and refer to the services and requirements to be performed by the Vendor in accordance with the Proposal.

"Term" shall mean and refer to the period from the date of execution of the Agreement through June 30, 2016, subject to earlier termination as provided in the Agreement.

1. **Specification Fee.** Vendor's budget includes a flat fee for the development of the detailed project plan, technical specifications, and prototype application(s) due in accordance with the Project Schedule (the "Specification Fee"). Unless otherwise approved in writing by University, University shall not be liable for any payment to Vendor other than the Specification Fee until such time as the detailed project plan, technical specifications, and prototype application(s) have been approved.

2. **Rights to Work Product**.

a) Definitions.

1. "Custom Work Product" means the resulting software (including all functional and technical designs, programs, modules, code, algorithms, flowcharts, data diagrams, documentation, and the like) and other data, materials, and products created by the Vendor on behalf of University and in furtherance of the Services.

2. "Embedded Software" means any pre-existing software owned by the Vendor or by any third party and incorporated or embedded into the Custom Work Product.

3. "Generic Components" means the software/programming tools developed generally by the Vendor to support the Custom Work Product and which (a) can be used in Web sites and systems other than the Custom Work Product developed hereunder; (b) can be

used completely free of the Custom Work Product Content; and (c) do not embody or convey the look and feel of the Custom Work Product developed hereunder.

b Ownership of Custom Work Product. University shall own all rights, title, and interest to any Custom Work Product. The Vendor expressly acknowledges and agrees that all such Custom Work Product constitutes "work made for hire" under the Federal copyright laws (17 U.S.C. Sec. 101) owned exclusively by University, and alternatively, hereby irrevocably assigns all ownership or other rights it might have in Custom Work Product to University. The Vendor shall sign such documentation as may be reasonably requested by University to insure that title to the Custom Work Product is vested in the University. If by operation of law any of the Custom Work Product, including all related intellectual property rights, is not owned in its entirety by University automatically upon creation thereof, the Vendor agrees to assign, and hereby assigns to University and its designees, the ownership of such Custom Work Product including all related intellectual property rights.

c License to Embedded Software. Except as otherwise specifically set forth in the Proposal, (i) the Agreement conveys no ownership rights to University with respect to Embedded Software; and (ii) University is granted a paid-up, world-wide, perpetual, nonexclusive license to use the Embedded Software strictly as an integral part of, and in conjunction with, University's use of the Custom Work Product and for no other purpose. Any use of embedded software must have the prior written approval of University.

d) Ownership of Generic Components. University shall own all rights, title, and interest to any Generic Components to the Custom Work Product. The Vendor expressly acknowledges and agrees that all such Generic Components constitutes "work made for hire" under the Federal copyright laws (17 U.S.C. Sec. 101) owned exclusively by University, and alternatively, hereby irrevocably assigns all ownership or other rights it might have in the Generic Components to University. The Vendor shall sign such documentation as may be reasonably requested by University to insure that title to the Generic Components is vested in the University. If by operation of law, any of the Generic Components, including all related intellectual property rights, is not owned in its entirety by University automatically upon creation thereof, the Vendor agrees to assign, and hereby assigns to University and its designees, the ownership of such Generic Components including all related intellectual property rights.

e) Notwithstanding anything to the contrary in this Section 2, any and all intellectual property rights obtained by University pursuant to this Agreement shall be on behalf of the ISLE project, and may be granted or assigned by University at the direction of the ISLE project sponsors (Illinois State Board of Education and Department of Commerce and Economic Opportunity). The Parties acknowledge and agree that any Custom Work Product shall be subject to an open source licensing regime pursuant to the intergovernmental agreement for the development of ISLE.

3. Confidential Information.

a Acknowledgment of Confidentiality. Each Party hereby acknowledges that it may be exposed to confidential and proprietary information of the other Party including, without limitation, other technical information (including functional and technical specifications, designs, drawings, analysis, research, processes, computer programs, methods, ideas, "know how," and the like), business information (sales and marketing research, materials, plans, accounting and financial information, personnel records, and the like), and other information designated as confidential expressly or by the circumstances in which it is provided ("Confidential Information").

Confidential Information does not include (i) information already known or independently developed by the recipient; (ii) information in the public domain through no wrongful act of the recipient; or (iii) information received by the recipient from a third party who was free to disclose it.

b Covenant Not to Disclose. With respect to the other Party's Confidential Information, the recipient hereby agrees that during the term of this Agreement and at all times thereafter it shall not use, commercialize, or disclose such Confidential Information to any third party without the other Party's prior written approval provided that all such recipients shall have first executed a confidentiality agreement in a form acceptable to the owner of such information. Neither Party nor any recipient may alter or remove from any software or associated documentation owned or provided by the other Party any proprietary, copyright, trademark, or trade secret legend. Each Party shall use at least the same degree of care in safeguarding the other Party's Confidential Information as it uses in safeguarding its own confidential information.

c Student Records.

The Vendor will comply with the relevant requirements of the Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. 1232g) and the Illinois School Student Records Act (ISSRA) (105 ILCS 10/1 et seq.) regarding the confidentiality of student "education records" as defined in FERPA and "school student records" as defined in ISSRA. Any use of information contained in student education records to be released must be approved by University. To protect the confidentiality of student education records, the Vendor will limit access to student education records to those employees who reasonably need access to them in order to perform their responsibilities under this Agreement. Any student records in the Vendor's possession shall be returned to University when no longer needed for the purposes for which they were provided, or

4. Correction of Deficient Services. Prior to the expiration of the Term or as otherwise may be necessary to adhere to the Project Schedule, the Vendor shall, at its earliest opportunity and its sole cost and expense, correct any Services which are defective or deficient or otherwise contain or reflect errors or omissions.

5. Indemnification. To the fullest extent permitted by law, the Vendor agrees to indemnify, defend, and hold harmless University, the other governmental entities involved in the development of ISLE, the State of Illinois, and their respective agents, officers and employees from and against any and all claims, demands, suits, liabilities, injuries (personal or bodily), property damage, causes of action, losses, costs, expenses, damages, or penalties, including, without limitation, reasonable defense costs, reasonable legal fees, and the reasonable value of time spent by the Attorney General's Office or University attorneys, arising or resulting from, or occasioned by or in connection with (i) any bodily injury or property damage resulting or arising from any act or omission to act (whether negligent, willful, wrongful, or otherwise) by the Vendor, its subcontractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable; (ii) failure by the Vendor or its subcontractors to comply with any Laws applicable to the performance of the Services; (iii) any breach of this Agreement, including, without limitation, any representation or warranty provided by the Vendor herein; or (iv) any infringement of any copyright, trademark, patent, or other intellectual property right.

6. Default and Termination.

a) Termination for Convenience: University may terminate this Agreement upon 30 days written notice to the Vendor. Such notice shall be sent to the address set forth for notice by over-night delivery or certified mail, return receipt requested. In the event of such notice of termination

from University to the Vendor, the Vendor shall have the right to perform all Services scheduled to be performed during the period covered by such notice and to be fully and fairly compensated therefore. University shall have the right to receive so much of the work product as has been created by the Vendor through the effective date of the notice of termination, and may, at its election, procure such work as may be necessary to complete the Services from other contractors.

b) Vendor Default: The occurrence of any one or more of the following matters constitutes a default by the Vendor under this Agreement (a "Vendor Default"):

1 The Vendor becomes insolvent or generally fails to pay, or admits in writing its inability or unwillingness to pay, its debts as they become due;

2 Vendor makes a general assignment for the benefits of its creditors;

3 The Vendor shall commence or consent to any case, proceeding, or other action (a) seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of the Vendor or of the Vendor's debts under any law relating to bankruptcy, insolvency, reorganization or relief of debts, or (b) seeking appointment of a receiver, trustee or similar official for the Vendor or for all or any part of the Vendor's property;

4 Any case, proceeding or other action against the Vendor shall be commenced (a) seeking to have an order for relief entered against the Vendor as debtor, (b) seeking reorganization, arrangement, adjustment, liquidation, dissolution or composition of the Vendor or the Vendor's debts under any law relating to bankruptcy, insolvency, reorganization, or relief of debtors, or (c) seeking appointment of a receiver, trustee, or similar official for the Vendor or for all or any part of the Vendor's property;

5 The breach of any representation, certification, or warranty made by the Vendor herein or Vendor's failure to comply with any other provision of this Agreement; or,

6 The Vendor attempts to assign, convey or transfer this Agreement or any interest herein without University's prior written consent.

c) Upon the occurrence of a Vendor Default, University may, without prejudice to any other right or remedy University may have under this Agreement or at law and/or in equity, terminate the Agreement and/or the Vendor's right to perform Services under this Agreement. In either such case, University may finish the Services by whatever method University may deem expedient. Any damages incurred by University as a result of any such Vendor Default shall be borne by the Vendor at its sole cost and expense, shall not be payable as part of the contract amount, and shall be reimbursed to University by the Vendor upon demand.

7. **Insurance** (*for non-government entities only*)**.** The Vendor shall maintain insurance policies in sufficient amounts to protect University from liability for acts of the Vendor and risks and indemnities assumed by the Vendor. Such policies shall include, without limitation, the following:

a A broad form Commercial General Liability Insurance Policy, including a waiver of subrogation endorsement in favor of University, and endorsements adding, at a minimum, the following

coverages: Premises and Operations Liability, Personal Injury Liability (with employee and contractual exclusions deleted), Broad Form Property Damage Liability, Broad Form Contractual Liability supporting the Vendor's indemnification agreements in favor of University, Completed Operations and Products Liability for a period of not less than three (3) years following the date of final payment hereunder, and Independent Vendor's Protective Liability. The Commercial General Liability Policy must be written with a combined single limit of liability of not less than $1,000,000 for each occurrence of bodily injury and/or property damage and an annual aggregate of liability of not less than $1,000,000 for bodily injury and/or property damage, and an annual aggregate of liability of not less than $1,000,000 for Completed Operations and Products Liability.

b A Comprehensive Automobile Insurance Policy providing coverage for all owned, hired, rented, leased, and non-owned automobiles, written with a combined single limit of liability of not less than $500,000 for each occurrence of bodily injury and/or property damage.

c A Workers' Compensation Insurance Policy in an amount not less than the statutory limits (as may be amended from time to time), including Employer's Liability Insurance with limits of liability of not less than (i) $500,000 for bodily injury by accident, each accident; (ii) $500,000 for bodily injury by disease, each employee; and (iii) $500,000 aggregate liability for disease.

d A Professional Liability Insurance Policy including, without limitation, a waiver of subrogation endorsement in favor of University. The Professional Liability Insurance Policy must be written with a limit of liability of not less than $1,000,000 for each claim, and not less than $2,000,000 in the aggregate on an annual basis, for errors, omissions or negligent acts arising out of the performance of (or the failure to perform) professional services hereunder such as, but not limited to systems analysis, system design, programming, data processing, network security, privacy liability, network extortion, consulting, system integration, and information services. The Professional Liability coverage shall include contractual liability coverage in support of the Vendor's indemnification agreements in favor of University, shall be written on a "claims made" basis, and must be maintained for a period of not less than three (3) years following the date of final payment to the Vendor for all Services.

Upon execution of this Agreement, the Vendor shall provide copies of certificates of insurance evidencing the coverage described in this Section. The policies specified above shall be placed with insurance companies reasonably acceptable to University, shall name University and its board members, officers, and employees as additional insureds (excluding the Worker's Compensation Policy and Automobile Insurance Policy) and shall incorporate a provision requiring the giving of notice to University at least thirty (30) days prior to the cancellation, non-renewal, or material modification of any such policies. Unless otherwise agreed to in writing by University, the Vendor shall cause all of its subcontractors to purchase and maintain insurance coverages identical to those required of the Vendor hereunder.

8. **University Assignment**. University may assign this Agreement in its sole discretion to the Illinois State Board of Education or any governmental entity or not-for-profit corporation formed specifically for the administration of the Illinois Shared Learning Environment.