Student Response System (SRS) Recommendation

Document Summary

DoIT Academic Technology has concluded an initiative to evaluate and compare several student response system ("clicker") products with the intention of recommending a single centrally supported solution for campus. This document includes the following information about this initiative:

- Rationale for this work effort
- Summary of the process followed to make recommendation and who was involved
- Recommended product and description of features
- Recommended approach

This document is intended to inform TLT-MAG of the process and rationale behind the working team's recommendation. It is also intended to assist TLT-MAG in making a RECOMMENDATION as to whether campus should move ahead with THE WORKING TEAM'S recommendation.

Rationale

There are multiple Student Response System (SRS) products currently in use on campus at the direction of faculty and particular schools and colleges. Ultimately this places a financial burden on students who may end up needing to purchase multiple products in order to participate in classes across departments. There are a number of possible reasons for such a multitude:

- There is no campus-prescribed or centrally-supported product
- SRSs are associated with and bundled with different textbook publishers
- Schools, colleges, and departments make their product selection based on their particular needs and often independently of other campus units, although perhaps not prioritizing issues such as accessibility, student data security, etc.

Research has revealed that a number of educational institutions have negotiated formal agreements with singular SRS vendors/products and thereby reduced costs to students through virtue of (a) reduction in need for students to purchase multiple product licenses and hardware/software, and (b) negotiation of better license/product costs for students at the institution. The intention of this effort is to recommend a vendor with which UW-Madison negotiate a formal agreement, ultimately reducing SRS costs to the UW-Madison student population. Other benefits are the ability for central support staff to focus their support efforts on one product, as well as reduction of learning curve for students.

More details of the recommendation are included in the "Recommendation" section of this document.

Summary of Work Process

In the Spring of 2015, TLT-MAG made the recommendation that DoIT AT embark on an effort to evaluate SRS products with the goal of recommending a centrally-supported solution for the UW-Madison campus. This effort involved the following work, which occurred during Spring and Summer 2015.

1. Formation of a product evaluation team to conduct product research and form a recommendation

A group of faculty and instructional technology specialists who have considerable experience working with and supporting various SRS technologies was assembled to carry out this effort. They include:

- Margene Anderson, DoIT Academic Technology
- Kristy Bergeron, DoIT Academic Technology
- Duncan Carlsmith, College of Letters & Science
- Christopher Hanson, School of Medicine & Public Health
- Jerzy Jura, School of Nursing
- Dan LaValley, DoIT Academic Technology

- Brian McNurlen, DoIT Academic Technology
- Michael Pitterle, School of Pharmacy
- Kristin Simon, School of Medicine & Public Health

2. Selection of products and identification of product requirements

The evaluation team began by identifying SRS products to evaluate. To maintain a manageable scope of work, the decision was made to limit the number of products to the three most utilized vendor products at UW-Madison and peer institutions, as well as one internally developed UW-Madison product. The internally developed product was included to better understand particular needs of campus users. The products included in this evaluation group were:

- I>clicker
- Top Hat
- Turning Technologies
- Internally developed solution for use with the Moodle LMS

The evaluation team convened a number of times to develop a list of desirable SRS product features (see Figure 1 below), based on their experience working with and supporting such products. They then ranked each feature as either Required or Desired.

3. Product demonstrations and requirements tracking

After developing a list of required and desired features product representatives from i>clicker, Top Hat, and Turning Technologies were invited to campus to deliver product demonstrations. Instructional technologists from the School of Medicine and Public health familiar with the internally developed solution for Moodle provided a feature demonstration of that product.

The evaluation team attended these demonstrations, and invitations were also extended to other campus users through groups such as the Community of Educational Technology Support (ComETS). The demonstrations were recorded so that all members of the evaluation team could view at a later time.

Documentation was captured about how each product aligned or did not align with each of the required/desired features identified by the evaluation team.

4. Product evaluation

After product demonstrations had concluded, the evaluation team reconvened to discuss the products. A formal evaluation and decision-making exercise, called Multiple Criteria Decision Making, or MCDM, was conducted. A common decision-making methodology, MCDM involves weighting each feature according to importance relative to the rest. Then each product's ability to meet each feature was scored according to how well it satisfied it. Finally, the scores were multiplied by the weights and the results for each feature were added up, to give a rating for each product.

Cost to students is certainly a priority for the campus. However, we did not feel the working group could adequately use retail pricing as part of the MCDM process. As we learned in interviews with peer institutions, the ultimate cost to students or the cost to campus was significantly different once an agreement was in place.

The results indicated that the product which scored highest was the UW-Madison internally developed solution for Moodle. However, because that solution did not meet one of the required features, which was to work with multiple campus learning management systems, it was decided that it would not be an adequate solution to meet the needs of the entire campus, a majority which utilizes the D2L LMS.

The second highest ranked tool was Top Hat.
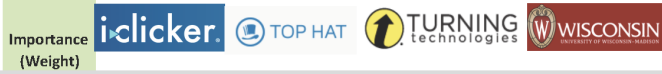
Features	Importance (Weight)	i>clicker	TOP HAT	TURNING technologies	WISCONSIN
Works with all devices (phones, laptops, tablets) and operating systems (preferably web-based and not OS specific)?	5	1	3	3	3
Integrates with multiple LMSs?	5	3	3	3	0
Tracks individual AND group responses?	4	0	0	0	3
Works with at least 1,000 end users?	5	3	3	3	3
Provides answer receipt confirmation to the end user?	5	2	3	3	3
FERPA compliant?	5	3	3	3	3
Is data being transmitted and stored securely (via HTTPS?)	5	3	3	3	3
Is vendor willing to add Terms of Service/EULA amendments to ensure practices acceptable to UW-Madison?	5	1	2	2	3
Complies with accessibility standards?	5	3	3	3	3
Integration with PowerPoint?	4	3	3	3	0
Ability to expand capabilities for users who would like more robust functionality (APIs)?	2	0	0	0	0
Allows instructor to see, in real time, changes students make to responses (real-time feedback)?	3	3	3	3	3
Supports "advanced" question types, including drawings and hot-spot images (this is beyond basic question types such as multiple choice, short answer, T/F, etc.)	3	0	2	0	3
Tracks all student responses, not just final response?	3	1	1	3	3
Offers location services in order to track student location at time of response?	3	0	0	0	1
Supports roles beyond just that of student and instructor? (for example, instructional designers or dept.-level admins)	3	0	0	0.5	3
Can have multiple users access an individual course (for courses taught by multiple people)? This is regarding built-in functionality, not a workaround method of sharing one account	4	0	1	0	0
Robust technical support provided for end users, including students, technical staff, and instructors?	5	3	3	3	3
If end-user support is provided, generous hours of availability?	5	3	3	3	3
Support included with licensing cost?	4	3	3	3	3
Knowledgebase documentation and training-related materials available to all end users?	5	3	3	3	3
Extra hardware not required	2	3	3	3	3
Offers a software solution as well as hardware?	5	3	3	3	3
Is a product roadmap continually made available to customers?	3	0.5	0.5	0.5	0.5
Are access to all usage data/analytics available as part of campus-level agreement? (Data is owned by and fully accessible to UW-Madison?)	4	3	3	3	3
Administrative dashboard/tools included	3	3	3	3	1
SCORES		219.5	249.5	247	250.5

Scoring completed Sept. 10, 2015

LEGEND

Scoring
0 - Does not meet
.5 - Does not meet but vendor commits it will meet in future version
1 - Slightly meets
2 - Mostly meets
3 - Meets or exceeds

Weighting
5 - Required/High
4 - Extremely important
3 - Somewhat Important
2 - Nice to have

Fig. 1. MCDM product evaluation.

Recommendation

Based on the results of the evaluation team's research and evaluation, it is making the following recommendation. Specific components of the recommendation are described. A recommendation from TLT-MAG is requested in moving ahead with acting on this recommendation.

Product

After reviewing the product features, Top Hat is the recommended product. It scored the highest in the features comparison evaluation of the three vendor SRS products.

One particularly important item to note about the Top Hat product is that it does not offer a hardware-only solution; that is, it is a software-only product that uses a "bring-your-own-device" (BYOD) device model and does not offer an option for using a "clicker" device. After attending the vendor product demonstrations and after considerable discussion, the evaluation team ascertained that this model is the eventual direction the SRS product market will head. One observation is that the other two products evaluated—i>clicker and Turning Technologies—are investing considerable development efforts in their software-only product solutions, although they continue to support their hardware-only products (clickers and base) as well.

It should be noted that the internally developed solution for Moodle is also available as another option for all to use on the UW-Madison campus. It was not selected as the recommended campus-wide option due to its current inability to work any LMS other than the Moodle LMS.

Agreement options and recommendation

It is recommended that UW-Madison embark on a two-year formal relationship with Top Hat to obtain special student pricing for their product. With the current recommendation of the Top Hat product, UW-Madison procurement or similar agents will need to be enlisted to negotiate a best price for the individual student, software-only option. We believe that with our recommendation of a single vendor product, that particular vendor will be motivated to provide a final student price less than their retail price. Other institutions have been successful using this strategy. It does not negate the possibility of an RFP at a later time.

Usage guideline

UW-Madison will need to develop a guideline to be used in conjunction with the recommended product. An example of a possible guideline is below:

"DoIT Academic Technology will provide end-user assistance for the use of the Top Hat student response system software-only option. The product will be integrated for use with both Desire2Learn and Moodle, the centrally supported learning management systems. Documentation, training, and a reduced student cost will be provided in the use of the Top Hat product."

Implementation approach

Embarking on development of a work plan, which will include planning for performing work such as, but not limited to:

- Campus communication plan, which would include working with campus schools, colleges, and departments, and other constituency groups (e.g. ComETS)
- Development of campus product support tools and processes
- Determining what exceptions to consider (that is, how to respond to requests for alternative student response system products)
- Planning for periodic product evaluation with instructional staff and students to assess satisfaction and effectiveness
- Partnering with campus "BYOD" policy development group
- Engagement of a project manager in conjunction with the appropriate DoIT Academic Technology Learn@UW Madison service functional domain applications administrator
- Utilization of the LTI integration checklist to connect the product with campus LMSs
- Adoption of the product dashboard for analytics tracking

These costs and resources might be absorbed by the Learn@UW Madison service, although if after further development of the work plan costs are identified that extend beyond what the service can provide, a funding request might be brought forward.

Audience Response Systems ("clickers")
PRESENTED TO TLT-MAG ON April 9, 2015

ISSUE: There are multiple clicker vendor products currently in use on campus at the direction of faculty. There are number of possible reasons for such a multitude—1) there is no campus proscribed or centrally-supported product, 2) clickers are associated with and bundled with different textbook publishers, 3) schools, colleges, and departments make their product selection based on their particular needs and often independently of other campus units. These are just a few of the reasons. Ultimately this places a financial burden on students who may end up having to purchase multiple products in order to participate in class.

HISTORY: In 2008/2009, campus faculty and support staff formed a ComETS special interest group and evaluated a variety of classroom response systems. The group choose iClicker (www.iclicker.com) to be the recommended response system for UW-Madison. While faculty and units have been free to choose other systems, standardization on one vendor presented a clearer path for campus and made support easier. A special interest group continues to share information amongst its members.

Some units have made the decision to go with a different vendor. For example, the School of Nursing selected Tophat (www.tophat.com) two years ago. Also, many of these systems no longer require a dedicated "clicker," but can be used with any mobile device.

Below are a few recommendations for your consideration:

Scenario #1: Select and adopt an existing product to be the centrally-supported product for campus
1. Work with the CIO's office in following an IT decision-making process.
2. Request that a sub-committee, or the recently initiated LMS and Digital Tools Working Group, take on the task of conducting further research and making a recommendation.
3. Define requirements, evaluate vendor products, conduct stakeholder reviews, look at possible cost structures (e.g. student direct purchasing, bundled purchases, buy-back policies), and initiate vendor relationship through an approved campus process.
4. Establish a support solution for campus, providing communications, training, technical support, etc.

Scenario #2: Software development exploration
1. Draft a proposal for exploring a UW-Madison-developed tool.
2. Initial discussions with the Learning Solutions group in DoIT Academic Technology estimates $10,000-$12,000 to explore possibilities and produce a prototype software app that would work on one mobile device platform.

Scenario #3: Establish policy around audience response systems but do not select a single tool for institutional use

1. Draft a policy similar to what was written for campus in 2009, where a particular tool was "preferred."
2. Provide guidance for clicker use, and caution how these devices may place an additional financial burden on students.
3. Establish possible purchase or buy-back options that lower the cost for students.
4. Establish formal relationships with the vendors so that the campus has a single point of contact, training and support can be better coordinated, and we can work more proactively to resolve problems when they arise.

In a survey of CIC schools last year, we found the following distribution of vendors:

Table 1. Distribution of vendors across CIC (of survey respondents in 2014)

Vendor	Number	Institutions
iClicker	6	Purdue, Nebraska, Illinois, Michigan, Michigan State, Penn State
Turning Technologies/eInstruction	2	Indiana, Ohio State