

Session Title: Demonstration of Fiske SOS – Interactive Kiosk & iClickers

Speaker: Matt Benjamin and Doug Duncan – Fiske Planetarium

Note taker: Lexie Brown

General Notes:

- Introduction to Fiske SOS (Matt Benjamin)
 - High-definition projectors and LCD displays
 - Audiences: k-12, general public, university students
 - LCDs act as supplementary content displays to convey information passively (no docent presenting), i.e. what is on the sphere (Jupiter, moon, etc.)
 - PowerPoint slides that change when datasets change
 - Include factsheets, additional images about the dataset
 - Picture-in-picture not used because clutters the image
 - LCDs underneath sphere so people don't have to look away from sphere to get information
 - Adding interactivity:
 - Kiosk software interacts with PowerPoint slides and allows visitor to move through datasets already programmed on sphere
 - Break down datasets into content categories and allow visitors to explore the data for that category
 - Kiosk software list playlist options (shows included datasets) and allows previews when you click on a playlist
 - Allows user to rotate sphere in a particular dataset
 - Connected to PowerPoint slides on LCD displays
 - Designed kiosk to be used for passive audience (mostly general public) and docent-led presentations
 - Will have 3 kiosks operating in jukebox mode (displays a queue so that users can see what will play next and can put their request in)
 - Queue is programmable in terms of number of datasets, length of time that each dataset plays
 - Visitor will see how long each dataset will play and know when their choice will play
 - Users will not be able to remove items off queue (only administrator can edit queue)

- How to prevent people from picking a bunch of items and then walking away
 - Can integrate a “timeout” mode where if no one is using kiosks and there is a long queue, the kiosk times out and ends the queue
 - 3 modes use kiosk, LCDs and SOS differently
 - 3 modes are passive display, docent presentations, and formal education programming
 - Can set a master kiosk and can also specify that computer that picked the dataset is the only one to manipulate the dataset
 - Will evaluate visitors’ use of the kiosks to see if this setup will work
- Visualizations with audio? Yes
 - If visitor plays a movie on kiosk, then the entire movie will play in entirety
- Look and feel of kiosk
 - Flat panel touchscreens (tablet PC)
 - Can mount kiosk to any of 7 or 8 removable pewter poles that will be installed surrounding the sphere
 - Can be moved around based on audience, program, etc.
- Kiosk software will be made available for free to the entire network (along with PowerPoint control software)
 - Would other institutions be able to change look and feel of software (open source)?
 - Some of it will be manipulate-able, but some will be set
- Hoisting the sphere
 - Allows for moving the sphere when the planetarium hosts events in the sphere space
- Kiosk timeline
 - Software ready, just working on the hardware
 - Software is on a website (works on closed wireless)
- Evaluation
 - Susan Lynn from Ceres (sp?)
 - Some internal assessment
 - May work with Kate Haley-Goldman from ILLI as well
- Created software to control sphere on iPhone
 - Hire students to create software from computer engineering, mechanical and electrical engineering
 - Student (Jim Love?) created iPhone application to control sphere
 - No rotation yet
 - Interaction with kiosk?
 - Not sure how to integrate application with kiosk
 - May be limited to presenters

- May be used as kiosk but haven't figured that out yet
 - If there is a demand from network, Fiske willing to continue working on improving the app
- Fiske iClickers Demonstration (Doug Duncan)
 - How to use: Turn the clicker on and select A, B, C, D, E
 - Anonymous but each one has a unique serial number
 - Can assign numbers to each student in order to track who has answered the question
 - Why we use clickers?
 - Visitors learn less than we think when all they do is listen
 - Some subjects are touchy and anonymity is useful
 - It's fun!
 - Carl Weiman: Physics of Everyday Life
 - Traditional lecture class: students learn about 25% of the concepts taught (that they don't already know)
 - Clickers allows user to vote more than once, but system only keeps most recent answer
 - Can use clickers to allow small group discussions about questions
 - Interactive engagement
 - Clicker use in the classrooms increased % of content that students learned in one class to ~48% at CU Boulder (from 25% learned in traditional lecture classes)
 - Clickers can help instructor see what students' assumptions are when they enter the classroom
 - How much lecture vs. clicker use in a class period?
 - Novices will use it once or twice in a period
 - Usage starts to increase as they realize how students are using them
 - Experienced instructors will focus lecture as preparation for student discussion around clicker questions
 - Clickers introduce variation of each class to instructor (allows adjustment to meet needs of audience)
 - Use of clickers in non-formal education
 - Much less research has been done in informal environment
 - Chicago MSI is leading user of clickers in a museum setting
 - Professional development guidelines for teaching with clickers
 - 3-year old book that is a guide for using clickers (written by Doug Duncan)
 - Also have a one page PDF document online about best/worst ways of using the clickers
 - Worst ways to use the clicker (from document):
 - Not introducing the clicker and explaining the reasoning
 - Most everyone loves using it; 15% have had bad experiences and most are due to no explanation
 - Comparison of clicker and non-clicker classes:

- Doug Duncan has some publication to share about this area of research
- Physics as a field is leading in using the clickers in the classroom