ALICE Tea Party: An Alternative or Supplementary Approach to Traditional Introductory Programming Courses

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OBJECTIVE
To introduce ALICE as an alternative or supplement to traditional introductory programming courses.

DESCRIPTION
ALICE is a 3D programming environment developed at Carnegie Mellon University and funded by the National Science Foundation. ALICE is designed to facilitate learning object-oriented, event-driven programming by drawing on our student’s immersion in graphically rich media through animation and games. Evaluations have demonstrated that students succeed in studying ALICE.

• students chances of succeeding in programming courses increases
• attraction and retention of women and minorities increases
• student enthusiasm for computing as a major increases.

ALICE has been built upon two premises. First, visualization of abstract concepts aids understanding. Second, syntax errors are a major barrier for novice programmers. To address these issues, ALICE programming uses figures, real or fantasy such as Alice Liddell or a white rabbit, that interact with objects, such as tables, chairs, or place settings, in environments that may contain trees, ponds, or buildings. Programming is achieved through dragging and dropping tiles with commands into an editor. Typing is reserved for assigning values to variables.

ALICE facilitates different approaches to programming, some of which are particularly appealing to underserved groups, such as women and minorities. ALICE programs may be either animations, which tend to tell stories, or interactive worlds, which tend towards games. Storytelling seems to have particular importance for the underserved groups. For example, Hawaiian islanders have used ALICE to preserve Hawaiian cultural heritage by creating animations of traditional stories. Similarly, young women, frequently excluded from programming, have been motivated by the chance to create and tell stories through their ALICE programs. The ability to create interactive worlds in ALICE allows an easy path to game programming and accounting for dynamic environments.

Fundamental computing constructs and logic are introduced through either storytelling or games. For example, to make a character walk, a simple step method – raise right leg, move forward, raise left leg, move forward – can be extended by using a loop. A logical structure, such as an “If...else” can be used to ensure that character avoids walking into an object. Similarly, ALICE allows more complex object-oriented activities, such as creating, exporting, and importing new classes built upon base classes, or invoking events through key presses or mouse actions.

The ALICE environment is an open source JAVA based suite and includes an object tree, event editor, program editor, and visualization area. While ALICE comes with a rich set of models, it is possible to import additional models as well as to import and play back audio tracks. ALICE is currently at Version 2. The
next version may be released by the time of the conference and it will include better models and rendering in collaboration with Electronic Arts. Additionally, the new version will have the ability to dump the JAVA code and to interact with external data sources.

TUTORIAL/WORKSHOP ACTIVITIES
In the course of the workshop, participants will build ALICE Worlds (as ALICE programs are called) that demonstrate fundamental aspects of OO programming. The target audiences are instructors from introductory programming and computer fluency courses; however, the workshop does not presuppose knowledge of OO programming. Participants who bring their own laptop computers will get the latest version of ALICE and all workshop materials to install on their computers.

The workshop will also include discussions of integrating ALICE in the curriculum from stand-alone to brief courses, as well as the latest model being developed “the blended course”, which combines ALICE and JAVA instruction. ALICE has been adopted at over 100 colleges and universities ranging from the liberal arts schools, such as Haverford College, Pennsylvania to state research universities, such as University of Texas.

REFERENCES
Alice V2.0 (2005), http://www.alice.org/

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Educational Applications of Social Software and Collaborative Technologies
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INTRODUCTION
Social software and collaborative technology applications are becoming prevalent across all dimensions of society including business, education, government and individuals. The shift to Web 2.0 applications and trends toward open source have provided the impetus for an explosion of new applications. Instant messaging, blogs, podcasts and wikis represent the most common forms of social software that promise to have widespread influence in the future. The community aspects of these technologies is a common defining characteristic of emerging social software applications. Social software is built on the concept of collaboration and community involvement. Businesses are beginning to see the benefits of blogs and podcasts as a means to reach a diverse customer base and keep a pulse on the “buzz” in the marketplace. These technologies are becoming an essential component of public relations in many companies. Social software is also being used as a communication tool to reach employees and business partners. Educational institutions are also jumping on board to provide additional options for students that meet specific curriculum needs. The potential for these technologies is huge and current trends indicate that competition for products and business applications will be global in scale.

This workshop will address ways in which software and collaborative technology applications are being integrated into the classroom. Podcasts, blogs, and wikis are being used extensively as tools to enhance the learning process. Implementation of collaborative technologies such as electronic meeting software will also be examined. Pros and cons of implementation and some of the lessons learned will be discussed. Examples of how schools are using these technologies and future trends will be examined. Participation from those attending the workshop who have experience with these technologies in the classroom will be encouraged.

WORKSHOP OBJECTIVES
1. To provide participants with an understanding of the various social software and collaborative technology applications and ways in which they are currently being used in the classroom.
2. To provide a forum by which to discuss the pros and cons of using these technologies in the classroom and how they may impact the learning process.
3. To evaluate undergraduate versus graduate level applications and how these technologies should best be integrated into curriculum design.
4. To discuss business applications of these technologies and the responsibility of academic institutions to prepare students with these skills.

SOCIAL SOFTWARE
Blogs, podcasts and wikis are the most common social software applications being used in academic institutions today. The use of these technologies and some of the success factors in various academic settings will be provided. These software applications are currently in the experimental stages in business school settings. The verdict is still out as to whether podcasts, for example, will become main stream academic tools for providing learning opportunities and alternatives to the current written text. On-line classes took some time to establish credibility and recognized value. Will social software applications provide value add in the academic environment and what role will they play in the future of curriculum design? These questions will be addressed in the context of current experiences and future trends.

COLLABORATION TECHNOLOGY
Collaboration software has become more prevalent in recent years for business applications supporting team projects and electronic meetings. In addition, collaboration software can be used to support managerial meetings with employees who may be in different places all over the world. Project teams can effectively share documents and observe power point presentations simultaneously. Participants can use whiteboard features to draw diagrams, list discussion items or emphasize points on another document or image. It is important for students to gain experience with these technologies and develop skills that will be beneficial and increasingly necessary for the job market. These skills may give students a competitive advantage in the marketplace. In this workshop the implementation of one of the prevalent business collaboration software tools (Breeze) will be discussed. This software was incorporated into the introductory IT courses at both the undergraduate and graduate levels.

CONCLUSION
This workshop will provide a forum from which to discuss these emerging social software and collaborative applications as tools in the design of business school
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