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Surprising Possibilities Imagined and Realized through Information Technology Volume 1, Issue 4

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Editorial By: Alka Harriger

The focus of this month's newsletter is students. For that reason, the articles in this issue share the perspective of students as well as opportunities for students.

We begin with an in-depth article by Jane Nawrocki on Paul Dickerson, one of the students that completed the 2008 SPiRiT summer camp (and Jane's former student). After SPiRiT, Paul continued to use Alice to develop worlds for some of his senior classes and continues to work with Alice. Read about how he became a moderator on the Alice Forums.

Next, two of our camp counselors, Naomi Slaughter and Jena Fisher, share the student perspective as they describe what each day is like for a student attending the SPiRiT summer camp.

Jessica Berger's Ask Alice article answers a question many students have asked—how to incorporate music and sounds into an Alice world. Something else we have to offer students is the SPiRiT Essay Competition. We shared information about it in the October 2009 newsletter, but were waiting on approval from the Institutional Review Board (IRB) before we could officially launch the contest. Approval was granted in January, so the contest has been found on the SPiRiT website under the Students menu.

In the November issue, Melissa shared some computer history with readers. This issue continues from where that left off, reporting other interesting, computer-related history in this issue.

During the summer programs offered by SPiRiT in 2008 and 2009, several participants were recognized as producing outstanding Alice worlds. One of our partners and a few individuals donated prizes for these winners. This issue names the winners and explains how you can get a copy of their award-winning worlds.

Until next month, happy reading!



2009 SPiRiT

2009 SPiRiT Teacher Class



Monthly Riddles By: Melissa Weddle

Here are the monthly riddles. Please submit answers to me at mweddle@purdue.edu. Enjoy!!

1. The more you have of it, the less you see. What is it?
2. I am always hungry. I must always be fed. The finger I touch will soon turn red. What am I?
3. Until I am measure I am not known, Yet how you miss me when I have flown. What am I?
4. I am seen in the water. If seen in the sky, I am in the rainbow, A jay's feather, and lapis lazuli. What am I?



Students doing a manual sort under the direction of Cummins

Paul Dickerson– SPIRIT 2008 By: Jane Nawrocki

SPIRIT 2008 was the perfect springboard into the world of IT for Paul Dickerson, a 2009 graduate of Springfield High School in Holland, OH. When asked what he considered the best thing about SPIRIT, he quickly replied “the diverse selection of classes and lectures. It was fun seeing the rainbow of possibilities available to IT workers.” These classes, lectures, and introduction to Alice proved to be just the starting point for Paul.

The first indication that Alice and Paul would make a winning combination was when the Alice world created during SPIRIT was selected as one of the two best student worlds. Paul describes that Alice world. “Of the three scenarios presented to the students, I thought that the ‘Dream Job’ option provided more possibilities for creativity. I made a gadget-laden secret agent with the character creator. This Secret Agent Man chased the mad scientist. The scientist, after mocking and laughing at the agent, retreated to a helicopter, which the agent tries to catch with his spring shoes (his first gadget). Unfortunately for him (but hilariously for us), his jump is just short and he falls back to earth, shaken. Secret Agent Man recovers quickly, springs to his feet and jumps to the top of a nearby skyscraper. He presses a button in his hand to reveal a second gadget: a jet-like hang glider, with which he takes off after the helicopter. In mid flight, he pulls out two more gadgets, a slingshot and a stick of dynamite, and aims the stick into slingshot. The camera then cuts to the dynamite’s point of view as it shoots toward the mad scientist, who turns, eyebrows raised, jaw dropped. Just before impact, the camera cuts to a scene of Secret Agent Man flying skyward, saying triumphantly, ‘The name’s Dickerson. Paul Dickerson.’”



Resident Penguin Screen Shot

Once Paul returned to high school, he continued to use Alice as a fun way to express his ideas—in particular for his AP English presentations. The content of his Alice worlds educated, amused, and charmed his AP English classmates and teacher. Paul’s teacher reported that his presentations were the most anticipated, enjoyed, and excellent of all. (Note: Paul created the _____ a world.)

But underneath all of this hype, Paul was honing his programming skills and mastery of Alice. His Resident Penguin game is a wonderful example of this talent. In Paul’s words “Resident Penguin is a game I created to prove that a small but fully functional and truly enjoyable game could be made using Alice. The game itself is about a penguin who decides to rid the world of zombies, so he takes his trusty Beretta (a model imported into Alice) and goes to the zombies’ lair. Using keyboard controls and the mouse, the player can target and shoot zombies which appear randomly from the ground and inch toward the penguin.” Obviously, the object of the game is to dispose of (shoot) all the zombies.

Resident Penguin contains so many features that make it a very memorable game, but Paul lists the following as features he’s particularly proud of:

- The firing method is designed so that the gun fires as fast as the user can click the mouse.
- The aiming system allows the user to see the targeted zombie before firing.
- Statistics displayed during game play include points earned, enemies killed, active weapon, and extra abilities purchased.
- The spacebar pauses the game allowing upgrades and weapons to be purchased.
- Version 3.5 has two additional enemies with different _____ g and damage methods, adding to the diversity of the game.
- As the game progresses, the world gets darker and the _____ faster, making the game more difficult.
- The game looks and plays extremely professionally (This author’s opinion.)



Students get all tied up during an evening activity sponsored by Cummins.

Note-> Resident Penguin may be downloaded from: <http://www.alice.org/community/showthread.php?t=3205> Be ready for a very fast-paced, highly entertaining game.

Paul Dickerson (Continued from page 2)

SPiRiT certainly was just the starting point for Paul. He is contributing in two very different and extremely interesting capacities within Alice. Number one: moderator for Alice Forums at www.alice.com. Number two: developing new engines for the Alice language.

When asked, Paul explained how he became a moderator. “When I made my [award-winning] ‘People are the Heart of Maritz’ video, which is posted on YouTube (<http://www.youtube.com/watch?v=4JZKwtDNCik>), I ran into a technical issue in Alice. Dennis Cosgrove [of Alice.com] took time out of his busy schedule to personally help me. Since then, I thought the least I could do was help others on the Alice forums with my knowledge. Eventually, I became such a strong and dedicated contributor to the Alice forums that Gabe, the forum administrator, made me an honorary moderator.”

Paul’s efforts on the Alice Forums led to an interesting collaboration to solve an Alice programming problem—recognizing when the mouse is hovering over a **moving** object. When asked how this collaboration came about, Paul said “this group effort between a user named cardsfan527 and myself started when I noticed that cardsfan527 had an exceptional talent for creating functional and useful bits of code in Alice—e.g. a working radar and a gesture recognition program. I asked if he could make an engine that recognized when the mouse hovered over a moving object. (Stationary objects are easier, as their pixel coordinates can be easily calculated and marked. Moving objects, since they have unpredictable coordinates, would require a special engine to recognize them.) He said he’d try. A day or two later, he posted his work—a world which had a sphere follow the mouse cursor with superb speed and accuracy. He said he was stuck, though, and suggested combining his work with the aiming system from my Resident Penguin game. I agreed to try to implement my system into his world, and after a few tweaks, the first working prototype of the first EVER moving object recognition engine was built.” Paul added that “since then, others have shown interest.... We’ve only just begun to explore what possibilities this opens up for us.” Possibilities, indeed!

Currently studying Information Systems at Owens Community College in Toledo, OH, Paul is unsure of his long-term goals. He reports that, on one hand, he’d like to be a video game developer, but that, on the other hand, he’d very much like to be a member of the Alice team at Carnegie Mellon. Who could have predicted that when Paul Dickerson arrived at SPiRiT that afternoon in July, 2008 that it was to be his springboard into a very new and exciting world?

Paul can be contacted at: x2495iiii@yahoo.com

A Day in the Life of a SPiRiT Student By Naomi Slaughter and Jena Fisher

As participants of the 2009 SPiRiT student program can attest, every day is quite hectic! Each day begins early in the morning with breakfast in the residence hall cafeteria. After breakfast, the camp counselors guide their assigned students to the morning session that usually begins with an invited speaker’s presentation. This is followed by numerous hands-on activities, including one where they can make progress on their own Alice world(s). Lunch falls between the first and second hands-on sessions. At the end of the day, everyone has time to complete the required assessments in order to qualify for their daily stipends. Throughout the day, the camp counselors lead their groups from session to session by foot. By the end of the week, they become very familiar with the layout of a large segment of campus.

After the students went through the planned daytime activities of SPiRiT, they had the evening to do what they wanted (under supervision of their camp counselor). Evenings were a fun time to get to know other campers and the camp counselors better. Some nights there were optional planned activities after dinner sponsored by companies that had partnered with SPiRiT.

During whatever free time was available, students spent their evenings in a variety of ways. Some worked on their Alice Worlds for the end-of-week presentation, while others took the night off to relax. One of the camp counselors noticed that many of the students used the nights to bond with their roommates and work on their projects. It was really interesting to see that they never wanted to take naps, even though they were extremely tired; they just wanted to work on their projects. The students created amazing projects and were very supportive of each other.

Playing cards and board games at the residence hall with other students, going to the Co-Rec to exercise, or walking around campus with their groups and camp counselors to see the various buildings and shops were also all common things to do in the evenings. It’s important for the students to have a little down time in the evening to relax after a hard (but fun) day of work in the classrooms!

“Paul’s efforts on the Alice Forums led to an interesting collaboration to solve an Alice programming problem”



Camp counselor, Jena Fisher helps SPiRiT students on Alice

Ask Alice By: Jessica Berger

Dear Alice,

I have music and sounds that I would like to add to my Alice world. What kind of sound files work with Alice and how do I get them into my world?

-Desperado in Detroit

Dear Desperado,

First, Alice will only accept files that are .mp3 or .wav formats. When you download music from the internet, you may get many different file types, so check if it is an MP3 or WAV file. If it is, you are all set. In your Alice world, select *Properties* → *Expand Sounds* → *Click Import Sound* → find the file to be imported and click *Open*. Then drag and drop the sound into your world where it is to play. Many sites are available with free sound clips and songs in these formats.

If you have sounds you have recorded using a microphone, try recording them using these file types or converting them in Audacity (<http://audacity.sourceforge.net/>) or a similar program. These can be imported the same way as described above. You can also record sounds right in Alice under *Properties* → *Expand Sounds* → *Click Record Sound* → then follow screen prompts to record and save the file. If you choose this way, your sound file will be linked to the object under which the properties are open and cannot be accessed by any other parts of the world.

If you find your sound file is too long for what you need it, you can use sound editing programs, like Audacity, to cut the file down to the part you need. Also, if you are going to export to video to use your Alice world in something like Windows Moviemaker and you have background music, you may just want to wait and add your music then so your file is smaller and you have more control over how the song plays. Then you just want to make sure your file type is acceptable by that outside program.

Good luck!

-Alice

Update on SPIRIT Essay Contest for Students By: Melissa Weddle and Alka Harriger

An update on the Essay Contest.... The contest has just been approved, so it starts immediately and has a closing date of March 15, 2010. As a reminder, here is a brief summary of the contest:

The SPIRIT team invites students in grades 6-12 that have used Alice and been impacted either directly or indirectly by the SPIRIT program to enter our essay contest. The essay must describe your connection to SPIRIT, what types of worlds you have created with Alice, and how that experience has changed your thinking about technology and your future career choices. You must also submit at least one Alice World (A2W file) that is discussed in your essay.

If you aren't sure about whether your SPIRIT connection qualifies you for the contest, read the examples below for ideas of valid connections:

- I completed the SPIRIT summer program in July 2008
- My friend Tony X completed the SPIRIT program in July 2009 and showed Alice to me and I then learned Alice on my own
- My mom is a teacher who attended SPIRIT in July 2008.
- Mr. Smith, my Spanish teacher, attended SPIRIT in July 2009 and showed us how to use Alice in his class.
- My friend, Julie, is in Mr. Smith's Spanish class and she did a presentation in English class using Alice and I thought it looked fun, so I learned it on my own. (Mr. Smith attended SPIRIT in July 2009.)
- I babysit for the son of one of the SPIRIT instructors (Mrs. X) who told me about Alice and the contest. I think she went to SPIRIT in 2008.
- (Read in "Valley Girl" voice) Like, my Uncle's girlfriend's son's best friend is, like, my boyfriend, Slash, and he saw a YouTube video on the totally awesome SPIRIT site about, like, French animals, and since Slash is totally into French culture, we were li cool." He used to be in this computer class with, like, Mrs. X, and was searching for, like, some more ideas of what to do with Alice for, like, his research on saving the entire world through skateboarding. He is so deep. (Mrs. X went to SPIRIT in, like, 2008.)



Students working on their Alice world projects

"Alice will only accept files that are .mp3 or .wav formats. "



Students apply IT skills to manufacturing

Computer History (continued from November Newsletter) By: Melissa Weddle

If you all remember the November newsletter, we started a section on computer history. This month, we are continuing that. Here you go!!
Courtesy of: <http://www.computerhope.com/history/>

1960: The Common Business-Oriented Language (COBOL) programming language is invented.

1961: General Motors puts the first industrial robot the 4,000 pound Unimate to work in a New Jersey factory.

1962: Steve Russell creates "SpaceWar!" and releases it in February 1962. This game is considered the first game intended for computers.

1963: The American Standard Code for Information Interchange (ASCII) is developed to standardize data exchange among computers.

1964: Dartmouth University's John Kemeny and Thomas Kurtz develop Beginners All-purpose Symbolic Instruction Language (BASIC).

1965: Texas Instruments develops the transistor-transistor logic (TTL).

1966: MIT's Joseph Weizenbaum writes a program called Eliza, that makes the computer act as a psychotherapist.

1966: The programming language BCPL is created.

1967: The LOGO programming language is developed and is later known as "turtle graphics," a simplified interface useful for teaching children computers.

1967: Ralph Baer creates "Chase", the first video game that was capable of being played on a television.

1968: UCLA is selected to be the first node on the Internet as we know it today and serve as the Network Mgmt Center. UCLA puts out a press release introducing the public to the Internet on July 3, 1969.

1969: AT&T Bell Laboratories develop Unix.

1970: The first ATM is demonstrated and used in Georgia.

1970: U.S. Department of Defense develops ada a computer programming language capable of designing missile guidance systems.

1971: IBM introduces its first speech recognition program capable of recognizing about 5,000 words.

1971: Nolan Bushnell and Ted Dabney create the first arcade game called "Computer Space."

1971: Niklaus Wirth invents the Pascal programming language.

1971: First edition of Unix released 11/03/1971. The first edition of the "Unix PROGRAMMER'S MANUAL [by] K. Thompson [and] D. M. Ritchie." It includes over 60 commands like: **b** (compile B program); **boot** (reboot system); **cat** (concatenate files); **chdir** (change working directory); **chmod** (change access mode); **chown** (change owner); **cp** (copy file); **ls** (list directory contents); **mv** (move or rename file); **roff** (run off text); **wc** (get word count); **who** (who is one the system). The main thing missing was pipes.

1972: The first video game console called the Odyssey is released by Magnavox.

1972: Dennis Ritchie at Bell Labs invents the C programming language.

1972: Ray Tomlinson introduces network e-mail, the first messaging system to send messages across a network to other users.

1972: Atari releases Pong, the first commercial video game on November 29, 1972.

1973: IBM introduces its 3660 Supermarket System, which uses a laser to read grocery prices.

1973: Dr. Martin Cooper makes the first cell phone call at Motorola.

1974: IBM develops SEQUEL, which today is known as SQL today.

1975: Paul Allen and Bill Gates write the first computer language program for personal computers, which is a form of BASIC designed for the Altair. Gates later drops out of Harvard and founds Microsoft with Allen.

SPIRIT Winners By Alka Harriger

Although everyone who completes the SPIRIT summer program is a winner, the SPIRIT team acknowledges a few individuals at the end of the summer program for producing an outstanding deliverable during the program. Thanks to the generosity of one of our partners, Microsoft, Inc., and donations from individuals, these winners receive a prize in recognition of their outstanding Alice worlds.

During the two-week teacher program, participants create drafts of three lesson plans in their respective subject areas that employ an Alice world in some way and that they will use during the following school year. Counselors and students complete a one-week program that overlaps the second week of the teacher program. Counselors create an Alice world that shares the wide range of career opportunities for people with IT skills. Students develop an Alice world that depicts their dream job and how they will get it OR tells their favorite story.

In 2008, the following participants won the summer competition:

Type of Participant	Name
Teacher	Jane Nawrocki
Counselor	Dennis Faust
Student	Paul Dickerson
Student	Sherell Scott

In 2009, the following participants won the summer competition:

Place	Type of Participant	Name
Third	Teacher	Melanie Roberts
Second	Teacher	Travis East
Second	Teacher	Jill Parry
First	Teacher	Sharon Van Sichel
Third	Counselor	Dee Ann Wylam
Second	Counselor	Melissa Barney
First	Counselor	Christine Borom
Third	Student	Julie Shen
Third	Student	Lori Hann
Second	Student	Amanda Gilmore
First	Student	Kiley Wuellner



2009 Teacher Participant, Sharon Van Sichel, helps a student with a Alice question.

The Alice worlds created by SPIRIT participants are available from the SPIRIT website by using the samples link under the appropriate menu. By clicking the Search button without specifying any filter options, every participant's available deliverables are shown in a table. The winners rows are highlighted using a different color background (blue: first place, red: second place, yellow: third place). The direct links for each of the samples pages are listed below:

Teachers' Samples: <http://www.itpossibilities.org/TeachersSamples.aspx>

Counselors' Samples: <http://www.itpossibilities.org/CounselorsSamples.aspx>

Students' Samples from 2008: http://www.itpossibilities.org/Parents_Samples.aspx

Students' Samples from 2009: <http://www.itpossibilities.org/ParentsSamples09.aspx>

Congratulations to these winners!