Work In Progress: Just Be
An Interactive Experience for K-12 Students

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Abstract—This work in progress describes Just Be, an outreach presentation created by the Women in Computing group at Indiana University - Bloomington. The aim of Just Be is to expose students to interesting fields in computing and challenge their stereotypes about people in computing.

I. INTRODUCTION

In 2000, only 10% of undergraduate computer science degrees at Indiana University - Bloomington (IUB) were awarded to women [1]. This problem is not limited to Indiana University since only 28% of women receive undergraduate computer science degrees nationally [2]. Fortunately, 60% of IUB’s student body is from the state of Indiana [3], giving the Women in Computing (WIC) group an opportunity to attract more women to the program by reaching out to local K-12 schools and introducing both girls and boys to interesting fields in computing.

To get students interested in science and technology, WIC created an interactive presentation called Just Be that is loosely modeled after Carnegie Mellon University’s Outreach Roadshow [4]. The presentation includes an introduction of the presenters, an interactive component where audience members use voting modules to participate in polls that challenge personal stereotypes and an overview of interesting fields of computing to spark students’ interests. The presentation can be personalized to fit any age group and presenters take time to meet with girls at the schools.

Just Be is beneficial for local schools because it exposes their students to fields of computing that they might not be aware of - this is especially true in schools that do not have computing courses or labs. The presentation also shows students that people in science and technology are not stereotypical geeks - a factor that can deter students from entering computing fields. Just Be benefits our WIC group by giving women exposure to public speaking, opportunities for interactions between graduates and undergraduates, and community service.

WIC has presented Just Be at several local schools and conferences. In the future, we will present at more schools and work with local universities to create more outreach programs. This paper details the development of Just Be and how our presentation has influenced students thus far.

II. INSPIRATION

The Women in Computing group at Indiana University started in the Fall of 2002 by a group of concerned female graduate students and professors who wanted to create a sense of community and support group for women in a department that was largely made up of men. The group is composed of women from computer science, informatics, library information sciences, and technical women in the IUB community. One of the goals for the organization is community outreach. We sought out a project that would help increase the number of women in computing while giving us an opportunity to interact with the community.

We found our inspiration when members of our organization read Unlocking the Clubhouse where the authors discussed a community outreach project at Carnegie Melon University called The Roadshow [5]. The Roadshow “is a presentation by a group of women undergrads and grads in the school of Computer Science at Carnegie Mellon who talk about their early thoughts on Computer Science, why/how they began studying the area, their current experiences, what Computer Science means to them now, and their future hopes and expectations” [4].

III. DEVELOPMENT OF JUST BE

Our first step in developing the presentation was figuring out the set of computing topics to cover. We wanted the presentation to reflect the diversity of our organization and opportunities available at IUB. Thus, we had to cover computer science (graphics, ubiquitous computing, virtual reality, etc.), informatics (human computer interaction, bioinformatics, music informatics, etc.), and library information sciences (human computer interaction, information retrieval, etc.).

In addition to exposing the audience to exciting computing research, we wanted to challenge students’ personal stereotypes about people in computing and allow them to interact with technology. Fortunately, plenty of students in computing sent us pictures of them doing interesting activities outside of work (rock climbing, swing dancing, cycling, skateboarding, etc.). In order to make this part of the presentation interactive, we used eInstruction voting modules [6] that allow students to answer multiple choice questions and see real time results. After much debate, we decided to call our outreach
presentation Just Be because people can just be themselves and still be in computing.

After creating the presentation, WIC members volunteered to present at local schools and teacher conferences. The teacher conferences, such as Java Engagement for Teacher Training (JETT) [7] and International Society for Technology in Education [8], were great ways to advertise Just Be and to get feedback on presentation improvements. The teachers we met at the conferences invited us to present at their schools.

IV. JUST BE PRESENTATION

The Just Be presentation can be broken into three parts - introduction of speakers, interactive quiz, and discussion of exciting researching in computing and technology at IUB.

During the introduction, presenters discuss what they were like when they were younger, how they got involved in computing, what they do now, and what they do outside of work. Figure 1 shows an introduction slide of the presenters when they were younger.

After the introduction, students are asked what they think typical people in computing related fields are like. Responses have varied from people in computing are “smart” to “smelly” to “anti-social.” Once we have established a group model of the typical person in computing, the students take an interactive quiz with eInstruction modules shown in Figure 2.

The interactive quiz has two types of questions - students are asked to either identify the person in computing from a set of four images or students are asked to guess the occupation of the person pictured. All of the questions are multiple choice and there are some false positives. For instance, we show a computer scientist rock climbing and then a few questions later, we show a professional rock climber climbing. Students assume the second rock climber is also a computer scientist.

During the last part of the presentation, presenters ask students what they think people in computing related fields do. Typically, students think people in computing create games, web pages, and make movies. We then show students other fields in computing as shown in Figure 1. The slides contain movies, screen shots, and pictures of the application being used. Surprisingly, students are most interested in the slide about computer graphics. Despite seeing computer graphics in commercials and many movies, they are excited about the idea of being able to create their own graphics.

We present Just Be to all students, regardless of gender. Sometimes, we meet after school or during lunch with female students to discuss opportunities for women in computing and answer any questions they may have.

V. FEEDBACK

“This is the best demo/info I’ve seen to reach the girl who is not yet in a CS class. I’ve been looking for something like this for several years.”

“I really liked the dynamic, interactive style of the presentation – that was great!!!”

We ask for feedback after each Just Be presentation in the form of a survey or conversational interviews from students and teachers. We use feedback to improve our presentation. Just Be is tailored to presentation time, audience, and presenters’ background for each presentation we make.

VI. CONCLUSION

Just Be is an outreach presentation created by Indiana University’s Women in Computing group to help K-12 students learn about interesting computing fields and dispel the geek myths associated with computing [5]. The presentation has been shown to many local midwestern schools.

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