

## IT Careers Camp: An Early Intervention Strategy to Increase IS Enrollments

### Abstract

This paper reports on a specific promotional initiative designed to spur enrollment in IT related fields -- an IT Careers Camp aimed at high school students. The camp was different from most prior computer camps in that it was not aimed at building skills such as programming or web development. Rather, it was specifically designed to convince students that (1) the job prospects in the field are very strong, and (2) IT work is interesting and creative, and not what they may have imagined – programming in some back room. To this end, the camp was designed in partnership with a number of corporations and included as a central element a series of experiential opportunities for the students. Each day of the camp featured (among other things) a visit to a business where the students took part in a hands-on activity that involved solving a business problem through technology. A qualitative and quantitative evaluation indicates that the camp was very successful in changing students' perceptions about the nature of IT work and the IT job market. We believe the camp has the potential to be a useful tool to create a pipeline of well informed students interested in IT careers.

# IT Careers Camp: An Early Intervention Strategy to Increase IS Enrollments

## Introduction

Enrollments in IT related programs in the United States, including Information Systems (IS), Computer Science (CS) and Computer Engineering (CE), have dropped significantly over the last few years (Becker, Hassan and Naumann 2006; George, Valacich and Valor 2005). The Computing Research Association, using data from the Higher Education Research Institute at the University of California at Los Angeles (<http://www.gseis.ucla.edu/heri/index.php>), reports that the number of newly declared Computer Science majors is now 39% below 2000 levels (<http://www.cra.org/CRN/articles/may05/vegso>). According to the National Center for Education Statistics, the number of bachelor's degrees in computer and information sciences decreased from 2004 to 2005 ([http://nces.ed.gov/programs/digest/d06/tables/dt06\\_269.asp](http://nces.ed.gov/programs/digest/d06/tables/dt06_269.asp); [http://nces.ed.gov/programs/digest/d06/tables/dt06\\_268.asp](http://nces.ed.gov/programs/digest/d06/tables/dt06_268.asp)). Although anecdotal evidence suggests that enrollments at some schools have stabilized or even experienced a slight uptick (Looney et al. 2007; <http://www.cra.org/statistics/survey/0506.pdf>), they are still, in most cases, at less than half the levels of the late 1990s.

Part of the decline in enrollment is probably a rational response to changes in the job environment, caused by such developments as the dot.Com bust, the end of the demand generated by Y2K, and the growth of offshoring. But it seems clear that some part of the downturn in enrollment is due to misinformation about at least two critical aspects of IT careers/professions:<sup>1</sup>

---

<sup>1</sup> (Cale Jr., Mawhinney and Callaghan 1991) This is, of course, not the first time that IS, as a profession, has lamented about misinformation leading to low enrollments. During similar cyclical downturns for IS majors in the mid-1980s, Cale Jr. and colleagues (1991) noted that problems in enrollment could be attributed to a general lack of

- 1  
2  
3  
4  
5  
6  
7  
8  
9
1. *Offshoring and Job Prospects*: Perhaps the single biggest factor that seems to be causing students to shy away from IT careers/degrees is the perception among students (and perhaps equally importantly, their parents) that most IT jobs are being offshored.

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21

Extensive coverage of offshoring in the media has reinforced this concern which, in the minds of students, leads to fewer and lower-paid jobs (Becker et al. 2006; Granger, Dick, Jacobson and Van Slyke 2007; Looney and Akbulut 2007; Shao and David 2007), increasing the uncertainty surrounding careers in IT (Gardiner, Jovanovic and Reichgelt 2004).

22  
23  
24  
25  
26  
27  
28  
29  
30  
31

Yet, the facts are that the market for IT jobs is strong and improving, with excellent long-term prospects. For instance, the Bureau of Labor indicates that of the five job categories expected to see the fastest growth between 2006 and 2016, two (including the number one category) are in the field of IT (<http://www.bls.gov/news.release/ecopro.t06.htm>).

- 32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54
2. *The Nature of IT Work*: Very few high school students have a good understanding of the nature of the work done by IT professionals. As most high school computing classes emphasize programming (Carter 2006; Lomerson and Pollacia 2006; Pollock, McCoy, Carberry, Hundigopal and You 2004), students cannot be faulted for assuming that IT work is primarily programming (Cale Jr. et al. 1991; Granger et al. 2007; Looney and Akbulut 2007). Many students, therefore, have an image of an IT professional as a “nerd” and IT work as “boring” and highly-technical (Becker et al. 2006; Granger et al. 2007), involving long hours in front of a terminal, working in isolation. This is particularly troublesome for IS, which is probably the most distant from this image of IT work, considering the managerial career anchors for IS professionals (Crook 1997; Ginzberg

---

55  
56  
57  
58  
59  
60

awareness about the potential financial rewards in the profession, and to students’ concerns about restrictive career paths, high intellectual requirements, and work leading to isolation from other people.

1  
2  
3 and Baroudi 1992; Igarria, Greenhaus and Parasuraman 1991).

4  
5 In fact, many High School students (and, frequently, their teachers and counselors) are  
6  
7 completely unaware of even the existence of IS programs in business schools. The  
8  
9 proliferation of multiple IT related departments in most Universities means that High  
10  
11 School students are often forced to choose among IS, IT, CS, and CE with an imperfect  
12  
13 understanding of the differences among them. This is probably most damaging to IS as  
14  
15 the program that is often the least well known at the high school level – students  
16  
17 interested in technology, therefore, often choose CS or IT programs by default.  
18  
19

20  
21 IS departments have reacted in a variety of ways to the problem of low enrollments.  
22  
23

24  
25 These approaches can broadly be classified as either curricular or promotional.  
26

- 27 1. *Curricular*: Some departments have changed their curricula, especially their introductory  
28  
29 IS classes, hoping to attract new students, or to turn IS into an attractive minor for  
30  
31 business students in other disciplines such as Accounting or Operations (Becker et al.  
32  
33 2006; George et al. 2005; Granger et al. 2007; Looney and Akbulut 2007).
- 34 2. *Promotional*: Other departments and institutions have increased their promotional efforts  
35  
36 to better explain the benefits of an IS major (Becker et al. 2006; Carter 2006; Granger et  
37  
38 al. 2007). These efforts are typically targeted at undecided students in their freshmen or  
39  
40 sophomore years in college. Examples include “pizza nights” and meetings with IS  
41  
42 professionals.  
43  
44  
45  
46  
47

48 While these approaches have merit, this paper reports on a specific promotional initiative  
49  
50 – an IT Careers Camp aimed at high school students. Our decision to host this camp was driven  
51  
52 by three primary considerations.  
53  
54  
55  
56  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
1. *Early Intervention*: The strategy of early intervention is based on the belief that it is easier to influence students before they make up their minds than to try to change minds once they have made an initial choice of majors for college. That is, the best way to change perceptions about IT is to educate potential students about the field, and opportunities therein, before they reach college (Cale Jr. et al. 1991; Carter 2006). Indeed, a survey at Brigham Young University reveals that 80% of the students in computer-related majors in college had made the decision to study computer technology during middle and high school (Helps, Jackson and Romney 2005).
2. *Experiential Learning*: Most promotional efforts at the College level, or even such initiatives as making presentations at High School computer classes/clubs, are largely informational. We believe, however, that truly changing perceptions about the nature of work in a profession (which, as we argue above, is one of our key challenges) is best accomplished by the kinds of immersive, hands-on experiences that were an integral part of the IT Careers Camp described in this paper.
3. *Enduring, Viral Messaging*: The IT Careers Camp, and other similar activities targeted at high school students, have the potential to influence beliefs about the profession not only for students who attend the camps but also, through the principle of viral marketing, for their friends. An additional design element of the camps was to include high school teachers and counselors – educating this audience further helps to spread the message beyond just the students at the camps. Ultimately, we believe this approach has the potential to produce a pipeline of well informed students, interested in pursuing IT careers.

1  
2  
3 Of course, for truly lasting effects, the camp cannot be a one-time effort. Instead, as a  
4 discipline, we need to consistently be in the business of informing and educating our  
5 potential students about our profession. This will not only help to soften the cycle of  
6 enrollment downturns and upswings that have characterized the field over the last 20  
7 years; it will also result in a more informed incoming student population, who choose the  
8 major/career not just because of a perceived “hot” job market but because the work itself  
9 has intrinsic appeal, and is a good fit with their personalities/skills/career goals. If we  
10 limit our efforts solely to times of crisis, and only to publicizing the job prospects, as has  
11 often been the case in the past, our enrollment issues may temporarily turn around but a  
12 new group of students will enroll in IS majors with little real knowledge about the  
13 profession, maybe solely attracted by the perspective of easily finding a job (George et al.  
14 2005). IS faculty will revert to the task of weeding out students who do not fit (Cale Jr. et  
15 al. 1991), which might contribute to a future downturn.

16  
17 Thus, we have made every effort to put in place an enduring coalition of business and  
18 academic partners (at both the high school and University levels) so that the IT Careers  
19 Camp, in effect, is institutionalized. To date, this seems to have been successful. We are  
20 about to launch our third set of camps this summer, and we have expanded the number of  
21 Universities serving as hosts, the number of corporations supporting the effort, and the  
22 number of high schools sending students to the camps. In addition, as we will discuss  
23 briefly later, we are putting in place year-round initiatives that will help to reinforce the  
24 message of the camps.

25  
26 The goal of the paper is to report on the design and execution of the IT Careers Camp.

27  
28 The camp was unique in many ways -- in its planning, funding, and programming, and appears to

1  
2  
3 have been very effective in changing views about the profession, as we report later. We hope and  
4  
5 believe that others may benefit from possibly undertaking similar initiatives.  
6  
7

8 The rest of this paper is structured as follows. We begin with a brief history of  
9  
10 INTERalliance – the organization that we formed in collaboration with our industry partners to  
11  
12 address the problem of declining enrollment. It was through the auspices of the INTERalliance  
13  
14 that we organized the camps – thus, a basic understanding of the history of INTERalliance is  
15  
16 useful background. We then discuss the specific design and activity plans of the camps and why  
17  
18 we made some of the choices. We present an evaluation of the camps, based on a survey  
19  
20 administered to students on the first day of the camp, and three weeks after the conclusion of the  
21  
22 camp, as well as interviews conducted with campers by one of the authors. We conclude with a  
23  
24 brief discussion of some of the lessons learned.  
25  
26  
27

### 28 29 30 **History of INTERalliance**

31  
32 The origins of the summer camp can be traced back to informal discussions between  
33  
34 three individuals, starting in February 2005: two of the authors of this paper (one from industry  
35  
36 and one from academia) and a Director of Information Systems in a Fortune 50 corporation  
37  
38 headquartered in the same city. These three individuals began to meet to take on the daunting  
39  
40 challenge of formulating a strategy to address the problem of declining enrollments in IT-related  
41  
42 fields, in the face of ample evidence that the job market for IT graduates is strong and likely to  
43  
44 improve. Soon, they invited two other senior executives to join the core team and the dialog.  
45  
46  
47

48 A second goal of the group was to find ways to motivate talented youth to stay in the  
49  
50 local area for their college and/or career, and to stem the exodus of talented 19-to-30-year-olds  
51  
52 from the region. This goal is not part of the scope of this paper so we will not discuss it further.  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 The individuals in the discussion were each motivated, to some extent, by the self-  
4 interests of their respective organizations. The corporate members of the team stand to benefit if  
5 the local region can attract the best and brightest in IT to its own ranks and the ranks of its local  
6 suppliers. The better and more world-class the local talent, the less money they have to spend on  
7 recruiting, relocating, and retraining. And the stronger and more competitive the local supply  
8 chain, the more employers can favor locals over expensive out-of-town options, and attract new  
9 firms to the region for the same benefits. For the academic member of the team, of course, the  
10 motivation is increased enrollment in the IS major.  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

21  
22 The ensuing dialog resulted in the formation of the INTERalliance – the stated goal was  
23 to **Identify, Nurture, Train, Employ, and Retain** IT talent in the region. The IT Careers Camp is,  
24 at this point, the flagship initiative of the INTERalliance, designed to directly address the  
25 ‘Identify’ and ‘Nurture’ phases. Additional initiatives have been implemented (such as high  
26 school IT internships) and are being discussed (for example, curricular offerings at the college  
27 level), but they are largely outside the scope of this paper.  
28  
29  
30  
31  
32  
33  
34  
35

### 36 **The IT Careers Camp**

37  
38 Summer computer camps are, of course, not a new idea. They have been used for some  
39 time to reach potential students (e.g., Pollock et al. 2004; Purchase, Hussey, Brookes and  
40 Leadbetter 1997; Yehezkel and Haberman 2005). More recently, some early initiatives in making  
41 high school students better informed about IT have been implemented, such as the partnership  
42 between the Society for Information Management (SIM) and Microsoft, where Microsoft  
43 sponsors the panel series “Future Potential in IT” with local SIM chapters (Becker et al. 2006;  
44 Granger et al. 2007). Industry and academia have also joined forces to tailor college-level  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 information technology curricula in Berks County, PA, with the objective to keep and increase  
4 the local IT talent pool (Trauth, Reinert and Zigner 2007).  
5  
6

7  
8 Most computer camps are, however, skill-oriented, focusing on such activities as  
9 programming, web development, animation, robotics, or engineering. The IT Careers Camp we  
10 implemented, on the other hand, was driven by a belief that while these kinds of camps may  
11 reinforce the interest of students who already find this material interesting, they are unlikely to  
12 create interest among students who have traditionally believed IT to be “nerdy” or boring. In  
13 fact, they are likely to reinforce such stereotypes. Such camps are particularly unsuited to  
14 creating interest in IS (as opposed to CS or CE) because they encourage a focus purely on  
15 technology, rather than on business problem solving using technology, which is ostensibly the  
16 domain in which IS differentiates itself.  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

29 Thus, we set out to design and execute a camp experience that was different, one that  
30 explicitly addressed the two major categories of misinformation described earlier; and that  
31 focused on the domain of IS and not on technological skill building like programming or  
32 networking. It was presumed that such a camp would look very different from traditional  
33 computer camps. The next step was, therefore, to determine the structure of the IT Careers  
34 Camp. What should the activities, the day-to-day schedule of the camp be? We began by  
35 identifying some general design principles and used these as the cornerstones of the camps’  
36 detailed activity plans. We discuss these next.  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47

### 48 *Design Principles*

49

50 The overarching design principle we adopted was that the camp should not be perceived  
51 as overtly educational, but that there should be a pervasive element of “fun” (with the education  
52 happening as a natural consequence of the activities scheduled). This was important for many  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 reasons: to distinguish us from prior computer camps, to attract the best students, and because  
4  
5 one of our main goals was to change the perception of IT careers, as noted above.  
6  
7

8 On a more detailed level, we used four specific design criteria in planning the activities:  
9

10 (1) *Reality-Based, Business-Academia Partnership* – Given that our ultimate goal with  
11 these camps was to influence career (and, consequently, college major) choices, we felt it was  
12 very important that the activities during the camp be reality-based and not perceived as  
13 hypothetical, academic exercises. A program created and administered strictly by universities  
14 was likely to be seen as self-serving and a recruiting effort, and lack credibility. Thus, a critical  
15 success factor, and perhaps the singular distinguishing feature of the IT Careers Camps program,  
16 was that it was based on a close partnership between academia and business, and not organized  
17 and hosted solely by/within a university.  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

29 For students to truly understand the nature of IT (especially IS) work, they have to see it  
30 in a real setting. This meant the camp had to include site visits to operations within local  
31 corporations. Similarly, a message of a positive job outlook would be more credible if it was  
32 communicated directly by the businesses and executives that are the ultimate employers.  
33  
34  
35  
36  
37  
38

39 Seeking a partnership with the business community also served, in effect, as a touchstone  
40 – our fundamental assumption is that the problem of low enrollments is based, to a large extent,  
41 on poor information and not a reflection of the true demand for IT professionals. If this is true,  
42 then the problem will eventually translate into a shortage of IT talent for businesses, so that it is  
43 in the interest of the business community to help spur enrollments by offering support both with  
44 programming, as well as financially. Thus, if businesses were unwilling to partner with us on this  
45 initiative, the underlying message would be that they did not perceive this as a problem, or that  
46 our approach was flawed.  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

To some extent, of course, we had a good start on this because the INTERalliance started out as such a partnership. However, we knew we had to seek a much broader coalition involving many more businesses in the community and we set out to build such an alliance. Fortunately, we were very successful. In 2006, the first year of the IT Careers Camps, six large companies (virtually all in the Fortune 100) financially supported the program -- a consumer products company, a food products company, an IT services provider, a financial services company, an auto manufacturer, and a maintenance services/supplies provider. In addition, non-financial support was received from a medical device company (site visit host), a software company (donated software), and a publishing company (keynote speaker). For the 2007 IT Careers Camps program, eleven additional companies (again, mostly very large companies) sponsored the programs with financial support – a telecommunications company, two financial services companies, an airline, a cable company, an insurance provider, three retail/grocery chains, a software company, and an electrical supplies company. Seven of these companies also hosted site visits.

(2) *Fast-paced and Intellectually Stimulating*: It is well known that today's youth are ardent multi-taskers (as any parent whose child is AIMing, listening to the iPod, all the while claiming to do his/her homework, can attest) and have limited attention spans. Thus, it was important that the camp be fast paced. We accomplished this largely by keeping each day's schedule fully packed, and by changing activities frequently. Variety, in this case, was felt to be critical. In addition, given our target audience of the best and brightest students (more on this later), the level of intellectual challenge needed to be high, in order to sustain interest. In fact, when we asked students after the camps which of the activities was their favorite and why, a student pointed to one and noted simply, "We had to think."

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

(3) *Competition*: Nothing grabs the attention of a high school student more than a little friendly competition. Thus, each camp was divided into 4 teams of 5 students each. Each team was assigned to a corporate sponsor – the team members were given t-shirts with the sponsor’s name, which they wore throughout the week. Wherever possible, we introduced an element of competition into the activities of the camp. For example, during the site visits, companies were encouraged to design tasks that allowed teams to compete in some kind of problem solving activity; a visit to a data center was followed by a “Jeopardy” style activity, and there was a group service learning activity (described later) that was also competitive. The teams accumulated points based on their performance on these activities. Members of the victorious team received prizes at the end of the week, as well as medals for winning individual competitions – we had students at the end of the week walking around with multiple medals they had earned throughout the week. Based on informal feedback, there is no doubt that the competitive element was extremely popular and helped to keep the students very engaged throughout the week.

The assignment of corporate identities to teams, and having the logos and colors on t-shirts, also ensured significant visibility for the companies that were funding the camps.

(4) *Involve multiple stakeholders*: High school students don’t choose careers and college majors in isolation -- two important influences are parents and high school counselors/teachers. Accordingly, we decided to include each of these stakeholders in the design of the camp. Each team of 5 students, as described above, was assigned a high school teacher or counselor as an advisor. These advisors stayed with the students throughout the week, traveled with them on the field trips, and worked with them in the execution of their service learning projects. It was clear that the teachers and counselors also enjoyed the camps and learned about the true nature of

1  
2  
3 IS/IT work, the number and variety of jobs available, and the distinctions among the various IT  
4 related majors. As noted above, our hope is that these teachers/counselors will serve as our  
5  
6 ambassadors in the high schools, bringing the message of the camp to students who were not  
7  
8 able to attend. We will discuss later the parents' participation in the camp.  
9  
10

### 11 12 **Camp Activities**

13  
14  
15 We first offered the camps in the summer of 2006 – two one-week camps with 20  
16  
17 students who had just completed 10<sup>th</sup> grade in attendance each week. In the summer of 2007, we  
18  
19 increased the number of offerings to four one-week camps, still with 20 students in each camp.  
20  
21 The camps offered in 2006 were day-camps, but in 2007, two of the weeks were residential, with  
22  
23 the students staying in a dormitory at the host university. The feedback from the students has  
24  
25 convinced us to change all future camps to be residential – this is our plan for the summer of  
26  
27 2008 (we also plan to increase the number of one-week sessions to 5).  
28  
29  
30

31  
32 The camp started with a brief welcome, either by the President of the University or by the  
33  
34 Dean of the Business school, followed by an introduction to the camp itself, conducted by the  
35  
36 acting Executive Director of INTERalliance (one of the authors of this paper). The typical day  
37  
38 (Monday-Thursday) included two major activities: a site visit (typically to a corporation, but in  
39  
40 some cases to other interesting users of IT such as a surgical facility that used robots for remote  
41  
42 surgery), and time spent at the University host site, working on a group service learning project.  
43  
44 We describe each of these activities next.  
45  
46  
47

#### 48 *Site Visits*

49  
50 Each corporate visit had the same general format. The students were received by a team  
51  
52 from the host, which always included at least one senior person from the IS department,  
53  
54 frequently the CIO, as well as others at a variety of levels. The size of the corporate team varied  
55  
56  
57  
58  
59  
60

1  
2  
3 from as few as 3-4 to as many as 20 at some corporate locations, depending partly on the activity  
4 they had planned (next).  
5  
6

7  
8 After an initial welcome, the students participated in an activity (or set of activities)  
9 designed by the host corporation (always in conjunction with the INTERalliance) – each activity,  
10 by design, involved solving business problems with technology (with some less direct  
11 relationships with IT, but highly technological, nonetheless, e.g., when they visited a Center for  
12 Surgical Innovation at the host University and experienced the robot used by surgeons for  
13 performing remote surgery). For instance, at one retail corporation, the four student teams  
14 competed on solving four different problems posed by the hosts:  
15  
16  
17  
18  
19  
20  
21  
22  
23

24  
25  
26  
27 *Event 1: Developing Prototypes* – Each team was asked to design a handheld device to be used  
28 by both customers and store associates. They were told that the tool needs to have a call button to  
29 be used by a customer to page for assistance while they are anywhere in a store. Two other  
30 buttons are also required: one “Enter” button and one “Feature” button. The enter button will be  
31 tied with a 10 key digital pad, while the feature button will be utilized to toggle different  
32 available functions on the device such as bar code scanning, voice, and key pad activation. The  
33 device will double as a scanner and in store wireless radio, and include an 8 line 32-character  
34 display. The students first discussed the device as a team, then each team member sketched out  
35 their own version/design. Eventually, the students combined their ideas and proposed a single  
36 device that was compact and pleasing for both customers and associates. Finally, the students  
37 observed a machine that is capable of generating 3D prototypes from a drawing. This is how the  
38 corporation, in fact, actually prototypes hand held devices today.  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

*Event 2: Queue Improvements* – Students observed a software product that displays simulated data from stores on the time spent by customers in queues. The group had a discussion with the activity facilitator from the corporation, as well as the project manager, to understand the simulation software and data. Pictures of actual checkout lines and store front-ends were displayed on the walls of the conference room. The project manager led the team through the sketching of a solution to reduce queue times. The teams' solutions were scored based on the physical design, process and creativity.

*Event 3: Mobile Computing* – A facilitator described the challenge of getting a store manager out of his/her office onto the store floor, while enabling the manager to still generate/review/analyze 29 reports each day, as well as other office-bound computer-based functions. Teams were challenged to propose a technology-based solution that allows the manager to meet all business reporting requirements while attending to the store floor. The corporation then demonstrated the mobile computing device they are deploying.

*Event 4: Security Upgrade* – Students acted as consultants, hired to review a security challenge caused by the use of proximity swipes as door entry security systems. "Tailgating" – individuals gaining entry through a badge-protected doorway by walking close behind another individual, poses a significant security risk. Students were challenged to design a better solution using technology. The proposed solutions were evaluated by security professionals at the corporation, and scored on creativity and feasibility.

1  
2  
3 Appendix A lists the corporations that were visited by students over the 4 weeks as well  
4 as a brief description of the activities) at each site (some of the site visits were repeated across  
5  
6 different weeks while others were one-time events for students attending camp during a specific  
7  
8 week). The activity (or set of activities) was typically followed by a lunch shared by the students  
9  
10 and the team from the host company, giving students a chance to talk to the corporate team  
11  
12 members individually and hear about their jobs and careers. Typically, the senior executive from  
13  
14 the host company also gave a brief talk during lunch, extolling the importance of technology and  
15  
16 the opportunities in the IT field broadly, and specifically within their companies. These senior  
17  
18 executives as well as other members of the corporate team shared their business cards with the  
19  
20 students and encouraged them to e-mail with any questions they may have about careers in the  
21  
22 field, and possibly also seek internship opportunities at the companies (more on this later).  
23  
24  
25  
26  
27  
28

### 29 *Service Learning Activity*

30  
31 Student teams learned about the entire solution development lifecycle – Requirements  
32  
33 Gathering, Design, Build, Test, and Deploy – and put the first two phases into practice with a  
34  
35 design competition built on a service learning opportunity. In 2007, the "customer" of the  
36  
37 student teams was Stepping Stones Center, a local charity that offers year-round programs for  
38  
39 children and adults with disabilities. The INTERalliance students visited the Stepping Stones  
40  
41 Center day camp, observed the young people with disabilities ranging from mental retardation  
42  
43 and Down Syndrome to wheelchair-bound children with multiple sclerosis or muscular  
44  
45 dystrophy. They interviewed the staff of Stepping Stones Center and then returned to the  
46  
47 university computer lab to design a "communication enhancer" invention that would help a  
48  
49 person with a specific disability to communicate better. Their designs were judged on the final  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 day of each week by a panel of experts from Stepping Stones, evaluating the students' work in  
4  
5  
6 ten different categories, including feasibility, affordability, ease of use, creativity, etc.  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

For Review

### *Parents' Afternoon*

The camp concluded on Friday afternoon with a session that included the parents of the campers. At this session, the students had lunch with another corporate representative, while the parents were given a presentation on the week's proceedings by the Executive Director of the INTERalliance. The presentation to the parents also discussed the motivation for the camp, chief among which was the need for additional IT talent, based on the strong job prospects in the field. The student teams presented their "communication enhancer" invention designs to the panel of Stepping Stones judges, with parents, faculty, and their competing student teams invited to observe. The students and parents then heard a keynote address featuring many of the region's experiential and physical assets that make it attractive to employers, employees, families, and students – this was designed to address the second mission of the INTERalliance noted above, retaining local talent. While the judges ruminated and scored the presentations, the high school faculty members who served as Team Advisors for each corporate-sponsored team gave out special recognition awards. Finally, the winning team from the "communication enhancer" design competition was announced, and each student was presented with a DVD containing a video scrapbook of their week-long adventure.

Overall, the activity plan for the camps attacked our goal of addressing the two categories of misinformation discussed above in multiple ways:

(1) Job Outlook: It was important that campers walk away with the knowledge that the future is bright for IS careers, with plenty of good jobs available. This message was conveyed to the students in a variety of places, both explicit and implicit:

1  
2  
3 (a) Statistics and facts about job prospects in the field (such as Bureau of Labor forecasts)  
4 were discussed with the students beginning the first day of camp, in the welcome speech by the  
5  
6 Executive Director of the INTERalliance.  
7  
8

9  
10 (b) The message was reinforced during the site visits, both by the host senior executives  
11 during their talks, as well as in informal lunchtime conversations.  
12  
13

14 (c) The message was reiterated to the parents on Friday afternoon.  
15  
16

17 (d) By exposing students to the wide variety of IT applications, we implicitly conveyed  
18 the idea that IT was so broadly applicable in today's world that there was always going to be  
19 high demand for IT talent, and getting an IT degree would give them great flexibility in choosing  
20 any career they wished.  
21  
22  
23  
24  
25

26 (e) Finally, implicitly, we stressed to the participants that the corporations funding the  
27 camps would not be investing in this fashion unless they needed the talent.  
28  
29  
30

31 (2) Nature of IT Work: We specifically wanted to change the image that IT professionals  
32 spend all their time working on computers, usually programming, cooped up in cubicles in front  
33 of terminals. Rather, we wanted to convey the idea that the work was fun, involved people skills,  
34 and teamwork to solve meaningful business problems. The skill set we wanted to emphasize was  
35 technology-driven problem solving, not programming. The main vehicle to do this was through  
36 the activities at the corporate site visits, which were all intentionally designed to emphasize the  
37 solution of business problems through the application of technologies. In addition, during  
38 informal conversations with corporate team members, usually at lunchtime, campers learned  
39 about the variety of jobs these individuals were performing, and how few of them involved  
40 programming. The senior corporate executives, in their talks, spoke about the critical role  
41 technology played in their businesses, and how their jobs entailed as much business acumen as  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56

1  
2  
3 technological skills. Thus, at the same time that we exposed them to the wide range of domains  
4  
5 in which IT is critical, we emphasized that the principal users of IT are still businesses, and that  
6  
7 solving business problems with technology can be not only rewarding but also fun. As one  
8  
9 student said, when asked about the main lesson he had learned during the camp, “it’s all about  
10  
11 business.”  
12  
13

### 14 15 **Evaluation** 16

17  
18 To what extent was the camp successful in achieving its objectives? We evaluated this  
19  
20 both quantitatively and qualitatively. We administered a survey to students on the first day of  
21  
22 camp soliciting their beliefs and attitudes towards IT. The students completed the same survey 3  
23  
24 weeks after the completion of the camp – our goal, of course, was to assess changes in these  
25  
26 beliefs and attitudes.  
27  
28

29  
30 The qualitative evidence was gathered by one of the researchers who traveled with the  
31  
32 students during the site visits and asked questions related to the activities and theme of the camp.  
33  
34 Each camper was interviewed twice, in both cases using a semi-structured format with a small,  
35  
36 pre-defined set of questions. The first interview took place in the first two days of the camp,  
37  
38 asking students about their impressions of IT and IT professionals, and their reasons for  
39  
40 attending the camp. The second interview took place during the last two days of the camp,  
41  
42 covering issues like the main takeaways from the camp, their favorite activities during the week,  
43  
44 and the majors they intend to pursue in college.  
45  
46  
47

48  
49 The survey instrument was based on a variety of published items dealing with  
50  
51 perceptions about job prospects in IT (e.g., Berry, Rettenmayer and Wood 2006; Gardiner et al.  
52  
53 2004), and the nature of IT work (e.g., Berry et al. 2006; McLean, Bryan, Tanner and Smits  
54  
55 1993; McLean, Tanner and Smits 1991). We also asked participants about their inclinations to  
56  
57  
58  
59  
60

1  
2  
3 pursue a major and a career in IT (based on Gardiner et al. 2004). Since we were not testing a  
4  
5 traditional research model, and our assessment is clearly of an exploratory nature, we were  
6  
7 interested in obtaining the students' views on as diverse a set of relevant items as possible. Thus,  
8  
9 we borrowed from multiple published instruments rather than limiting ourselves to a single set of  
10  
11 scales.  
12  
13

14  
15 As stated above, students completed the initial survey on the first day, immediately upon  
16  
17 arrival, before they had done anything related to the activities of the camp or heard any  
18  
19 presentations. Thus, these responses were designed to capture the views the students brought to  
20  
21 the camp. A total of 76 students attended the camps – all but one student, who arrived late,  
22  
23 completed this initial survey. The second round of data collection was done via an online survey  
24  
25 (identical in content to the paper-based instrument used in the initial survey). We solicited each  
26  
27 student individually via e-mail three weeks after the completion of the specific camp they had  
28  
29 attended. Two reminders were sent, as needed, approximately two weeks apart. Overall, we  
30  
31 achieved an 82% response rate in the second round of data collection.  
32  
33  
34  
35

36  
37 We also solicited open-ended feedback from the attendees – these are shown in Appendix  
38  
39 B. These comments clearly reflect the overwhelmingly positive response to the camp.  
40

## 41 **Results**

42  
43 *“I am not sure what IT is... every day we learn something new... it is very diverse.”*  
44  
45

46  
47 This quote exemplifies the overall reaction of the students to the camp -- they came in  
48  
49 with a very narrow view of the world of IT and were amazed by the diversity of IT applications  
50  
51 and uses to which they were exposed. But more specifically, did the camp change perceptions in  
52  
53 the two categories of misinformation that we identified earlier -- job prospects in IT, and the  
54  
55 nature of IT work? Did it increase the likelihood of these students choosing an IT related career/  
56  
57

1  
2  
3 major? To assess this, we conducted paired t-tests comparing the pre- and post-camp responses  
4  
5 to our survey. The results are presented in Table 1 and discussed below in three sections,  
6  
7 corresponding to the three major categories of items in the survey – job prospects, nature of IT  
8  
9 work, and commitment to IT. The survey results are augmented with direct quotes from  
10  
11 interviews with the students, shown in “*italics and quotes.*”  
12  
13  
14

15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

INSERT TABLE 1 HERE

### *Job Prospects*

“*I thought IT was overflowing with personnel and I learned there is a strong need for people.*”

As the results in table 1 show, the camp was highly effective in changing beliefs about job prospects in IT. All the items, except one, show a significant change in the hoped for direction. Thus, after the camp, participants were more likely to believe that IT professions entail higher pay (pre: 4.95, post: 5.87,  $t = 7.26, p < .001$ ) and offer more job security (pre: 4.89, post: 5.44,  $t = 3.95, p < .001$ ); that IT professionals enjoy great flexibility in their choice of jobs (pre: 5.34, post: 6.20,  $t = 6.79, p < .001$ ), and can apply their skills in a wide variety of domains (pre: 5.89, post: 6.44,  $t = 4.17, p < .001$ ). This allows for “*great variety*” in their jobs since IT is in the “*background of many operations.*” They also felt better informed about the state of the IT job market (pre: 3.21, post: 5.40,  $t = 10.81, p < .001$ ), and were more convinced both that overall there is high demand for IT professionals in America (pre: 5.56, post: 6.24,  $t = 4.67, p < .001$ ) and that they personally would be able to easily obtain a job in the field (pre: 4.97, post: 5.34,  $t = 2.30, p < .05$ ).

The sole exception was the item related to the participants’ perceptions about offshoring (pre: 4.13, post: 3.70,  $t = 1.95, n.s.$ ). Although the results were in the right direction, they were

1  
2  
3 not significant and the standard deviations were very high in both pre- and post-camp data  
4  
5 collections. One possible explanation may be that, before the camps, the level of awareness of  
6  
7 this phenomenon varied greatly among the participants. Thus, as they got more information  
8  
9 during the camp, some students' anxiety may have actually risen, while others were reassured.

### 12 *Nature of IT Work*

14  
15 *"IT people are social, normal."*

16  
17 *"It's all about business."*

18  
19  
20 Probably the most significant transformation caused by the camp was in the students'  
21  
22 perceptions of IT professionals. Early interviews revealed that many students began with a very  
23  
24 stereotyped, unfavorable image of IT professionals – they work in a "*back closet*" and are "*very*  
25  
26 *pale, with glasses.*" In fact, some students were reluctant to even admit to their friends that they  
27  
28 were attending an IT camp: "*I am not telling my friends that I am going to an IT camp. I like it to*  
29  
30 *be my little secret.*" Or "*I told my cousin I was coming and he told me it was something for*  
31  
32 *geeks.*"

33  
34  
35  
36 By the end of the camp, participants had a very different opinion<sup>2</sup>, saying that "*IT*  
37  
38 *professionals are not geeks; they are regular people*", "*there are all kinds of people working in*  
39  
40 *IT, no stereotype is valid*", and "*I thought IT was something of a nerd thing, but my opinion has*  
41  
42 *changed.*" Or, as one student noted, "*I thought [the camp] was for geeks and nerds but I am glad*  
43  
44 *I was wrong.*"

45  
46  
47  
48 Their opinions about the type of work that IT professionals do also changed. They  
49  
50 understood that programming was not the core of IT as a profession (pre: 4.10, post: 2.65,  $t =$

---

51  
52  
53  
54 <sup>2</sup> Interestingly, the results of our item dealing with IT professionals being perceived as "nerdy" revealed little  
55  
56 difference between pre- and post-camp opinions. A potential explanation comes from the wording of the item, which  
57  
58 indicated a general, not personal, opinion about IT professionals.

1  
2  
3 6.70,  $p < .001$ ). At the beginning of the camp, participants “*thought you needed a lot of*  
4  
5  
6 *programming to work on IT.*” After the camp, some were certain that “*there’s more to IT careers*  
7  
8 *than I thought before coming to camp.*”  
9

10 The belief that IT careers depend purely on math and science abilities also decreased  
11 (pre: 5.63, post: 4.98,  $t = 4.09$ ,  $p < .001$ ), with an increased recognition of the importance of  
12 interpersonal (pre: 5.34, post: 5.69,  $t = 2.05$ ,  $p < .05$ ) and problem solving skills (pre: 5.90, post:  
13 6.39,  $t = 4.15$ ,  $p < .001$ ) – something that is particularly relevant to IS. Participants also indicated  
14 an increased belief that IT professionals work mostly with other people, not with computers (pre:  
15 4.02, post: 2.82,  $t = 5.36$ ,  $p < .001$ ), and in teams (pre: 5.29, post: 5.90,  $t = 3.79$ ,  $p < .001$ ).  
16  
17 Indeed, participants discovered “*how IT people really have to have good social skills and deal*  
18 *with people.*” Some were even suggesting new definitions for the field: “*IT should be called ICT,*  
19 *with the C standing for communication*” while “*IT careers are about intermediating*  
20 *relationships between people using computers.*” Even self-proclaimed ‘geeks’ came out of the  
21 camp with newfound impressions about the field: “*I am actually kind of a geek and I knew there*  
22 *was more to IT but the camp revealed even more things.*”  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38

39 The camp also increased the perception of IT work as interesting (pre: 5.95, post: 6.48,  $t$   
40  $= 4.25$ ,  $p < .001$ ) and creative (pre: 5.98, post: 6.45,  $t = 4.37$ ,  $p < .001$ ). However, there was no  
41 change in the perception that IT work is challenging (pre: 5.72, post: 5.66,  $t = .39$ , n.s.) – the  
42 mean score on this item was fairly high both before and after the camp. This may actually be a  
43 positive outcome – to attract the “best and brightest” students, a profession must be perceived as  
44 challenging.  
45  
46  
47  
48  
49  
50  
51  
52

53 The intentional focus on business activities during the camp seemed to have had its  
54 desired effect. As one participant said, “*I thought the camp would be about computer facts but I*  
55  
56  
57  
58  
59  
60



1  
2  
3 *am happy I was wrong and we are covering business aspects.”* Indeed, participants *“learned a*  
4 *lot about the amount of great companies in Cincinnati and how IT is important for them”* to the  
5  
6  
7  
8 point that now they believe that *“without IT, business would be a mess.”* For IS departments that  
9  
10 are typically housed in business schools, the realization that IT *“is all about business”* is clearly a  
11  
12 desirable outcome.

### 13 14 15 *Commitment to IT*

16  
17  
18 *“I came here thinking about going into medicine, but now I want to go into IT.”*

19  
20 The statement above, of course, represents the ultimate example of success in terms of  
21  
22 our goal of increasing enrollments in IT related majors -- “convert” students that were targeting  
23  
24 different majors before the camps. However, the results in table 1 reflect that, although the  
25  
26 numbers are in the expected direction, the decision to pursue a career (pre: 3.65, post: 3.85,  $t =$   
27  
28 1.22, n.s.) or a major (pre: 4.20, post: 4.36,  $t = .98$ , n.s.) in IT was, on average, not significantly  
29  
30 influenced by the camps.  
31  
32

33  
34 While this may seem disappointing, in fact, it is not surprising. Many students came in  
35  
36 either with little idea of what they wanted to do or with strong notions of pursuing a career in a  
37  
38 field other than IT. It is likely that three weeks (which is when we administered the second  
39  
40 survey) is just not long enough for these critical decisions to be completely turned around – we  
41  
42 would expect such results to take a little longer to manifest themselves. Indeed, there is now  
43  
44 some anecdotal evidence to suggest this is happening. The students who attended the first set of  
45  
46 these camps in 2006 are currently applying to college and the IS department at the host  
47  
48 University has received interest from at least three students who attended the camp, while two  
49  
50 other students have indicated they will be pursuing an IT major in college, albeit not necessarily at  
51  
52 the host University. The following e-mail is an example:  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

“...I just wanted to pop in and say hello, but more importantly, I wanted to thank you. This is going to sound corny, but I really mean every word. Because of the InterAlliance Camp, I have decided to take myself down an Information Systems root in college. Before the camp, I was dead set on becoming the next best chemical engineer, but at that camp, I found my real passion. I just wanted to personally thank you for all the wonderful opportunities you and this camp have offered me. I wish, sometimes, I could go back and do it again. ... This camp has honestly changed my life, and it's all because of wonderful people like you. ... I'm not sure exactly where I'm going for college, but I am set and ready to roll with Info. Systems...”

At the same time, however, camp participants did show a significant increase in the expectation that they would make a living as IT professionals (pre: 4.23, post: 4.56,  $t = 2.42$ ,  $p < .05$ ) and that their future work would require a high level of IT skills (pre: 4.79, post: 5.28,  $t = 2.90$ ,  $p < .01$ ). Perhaps one reason for this may lie in the message reinforced throughout the camp that “IT is everywhere.” This is supported by such statements from students as “*Whatever career I choose, IT will be necessary*” and “*I didn't know what IT was but I learned it is in a variety of fields.*” As a result, even those students not convinced about pursuing a major/ career in IT mentioned the possibility of adding a “*layer of IT to my major*” by “*adding some extra IT classes in college*” because of the need to “*get up-to-date.*” Indeed, as one student stated, “*Before the camp, I would never even consider taking an IT class but after this week, which has been great fun, I would consider that.*” This is a positive development for the field – as many IS departments around the country have observed, one possible way to increase enrollment in our courses is to persuade students to supplement their major field of study with a minor, or at least some coursework, in IS. Our results suggest that the camps may help in accomplishing this goal.

What about students who were already interested in IT before the camp? The camp reinforced their decision and broadened their horizons in terms of possible careers. Thus, for one student who was struggling with the idea to pursue computer science because he thought it would mean being “*in front of a computer the whole time,*” the camp brought the realization that

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

“*there is more to IT than that.*” For another student interested in an IT career, the camp opened her eyes to “*more options such as [the job of] project manager.*” One undecided student concluded he wants to “*get an internship next year and maybe pursue business as [his] major.*”

Finally, we solicited open-ended feedback from the attendees (shown in Appendix B).

### **Some Additional Considerations and Lessons Learnt**

In this section, we will discuss some additional considerations that go into the successful implementation of a camp such as the one described here, as well as some lessons learnt on things we will perhaps do differently the next time we host the camps (summer 2008).

#### *Selecting the Right Audience*

An important decision we had to make early was whom to invite to the camp. What is the right age to intervene and try to create interest among students in IT careers? The challenge was to identify students who had not yet made a definitive choice of careers, and were therefore subject to influence, and at the same time were mature enough to appreciate the kinds of experiential activities we were planning for the camp. We settled on students who had just finished 10th grade. During 10th grade, students begin an active exploration of what lies ahead for them -- college-wise, career-wise, even "geographic relocation-wise". We felt that younger students would lack the maturity we were looking for to truly understand and appreciate the corporate visits, and the summer after the 11<sup>th</sup> grade would be too late as most students are already too far along in their decision process with respect to choice of major/college by then. Of course, a drawback of selecting 10<sup>th</sup> grade students is that one has to wait a couple of years to assess the full impact of the camps in terms of enrollment.

We also intentionally decided not to advertise the camps broadly and let individual students sign up but rather to work through the high schools. Thus, we picked a set of prominent

1  
2  
3 High Schools (initially, 3 public and 3 private, now a considerably larger set) in the region and  
4  
5 approached the counselors/principals/teachers at the schools to help us identify the best and the  
6  
7 brightest, ideally with potential interest in IT. Each school was given a quota, based on relative  
8  
9 size. We wanted to target the "best-and-brightest" students because we felt that attracting them  
10  
11 to the IT field and retaining them in the region would be of most interest to the members of the  
12  
13 corporate community we were trying to partner with, not just in terms of writing a check, but  
14  
15 rather getting highly involved in program development, implementation, and individual student  
16  
17 mentoring.  
18  
19  
20

21  
22 One decision that we are going to revisit for the upcoming year is letting the schools pick  
23  
24 the specific students to send to the camps, instead of sending us a list of potential candidates to  
25  
26 choose from. In a few cases, the schools picked students who had firmly decided on a different  
27  
28 career and were mostly using the camp to add to their college resume. We would, of course,  
29  
30 prefer students who may have some expressed interest in IT, or are undecided and have an open  
31  
32 mind. For the next camps, therefore, we are developing a questionnaire that students must  
33  
34 complete and we will select the specific attendees from nominees submitted by the schools. In  
35  
36 fact, one of the students at the camps this year also suggested that "[camp] application should go  
37  
38 to *INTERAlliance* and not be filtered by school."  
39  
40  
41  
42

#### 43 *Publicity*

44  
45 An important element of our strategy was to seek as much visibility as possible through  
46  
47 coverage of the camps in the local media. Such publicity has two obvious benefits. First, the  
48  
49 message reaches students and parents beyond those in the camp. Second, it gives our corporate  
50  
51 sponsors added publicity for their investment, and also helps us gain visibility with potential new  
52  
53 corporate sponsors.  
54  
55  
56

1  
2  
3 We were quite successful in getting such coverage. The Business Section of the primary  
4 local daily newspaper and the main local business newspaper (a weekly) have both provided  
5 numerous stories over the last three years on the growth of the program. National Public Radio  
6 interviews with the Executive Director were sought in 2006 and 2007, and the individual  
7 participating high schools and universities have featured stories about the INTERalliance in their  
8 ongoing communications to their stakeholders.  
9

### 10 11 12 13 14 15 16 17 18 *School Year Programming*

19  
20 We also felt that it was important to have ongoing activities throughout the school year,  
21 following the IT Careers Camp, so that the message of the camp was continually reinforced. To  
22 this end, we encouraged students who attended the IT Careers Camps to create ‘chapters’ of the  
23 INTERalliance at their high schools. The teacher/counselor from each school who served as a  
24 Team Advisor during the summer program takes on the duties of Faculty Coordinator for the  
25 chapter. Each INTERalliance chapter is then asked to plan and host at least one city-wide event  
26 each year, open to INTERalliance chapters all over the city. Each chapter also forms a  
27 Membership Committee, which screens applicants for the following year's IT Careers Camps.  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38

### 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 *Summer Internships*

Corporate sponsors are encouraged to hire INTERalliance IT Careers Camp graduates for  
summer internships after 11<sup>th</sup> and 12<sup>th</sup> grade. This is a challenge as most companies are not set  
up to hire high school interns – we are, however, working cooperatively with our corporate  
sponsors to develop templates that can be deployed broadly. We have had some success –  
examples of internships deployed in prior years include working in the network administration  
department of a company; working on the helpdesk in a company's call center; doing e-  
commerce research for a company, exploring why the online shopping experience for one brand

1  
2  
3 is more user-friendly than a competitor's brand; and helping with logistics, administration, and  
4  
5 operation of the IT Careers Camps programs themselves.  
6  
7

### 8 **Conclusion**

9  
10 We set out to try to influence enrollments in IT related majors through a strategy of early  
11 intervention. The specific vehicle we chose was the IT Careers Camp. This paper described the  
12 design and implementation of the camp in some detail, including the activity plans, the alliances  
13 with industry partners and high schools, some of the critical success factors, lessons learnt, and  
14 the outcomes. As the evaluation shows, the camps seemed to have been quite successful in  
15 changing perceptions about job prospects in IT and the nature of IT work – we believe these  
16 changed perceptions should ultimately drive enrollments. Of course, the evidence on the actual  
17 impact on enrollments is just beginning to come in, as the first campers are starting to apply for  
18 college. However, as we reported above, there is some anecdotal evidence that it is having an  
19 impact.  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33

34 In conclusion, we believe the IT Careers Camp was a very successful initiative and the  
35 programs that we are implementing as follow-ons should only serve to reinforce the message.  
36 We hope that other universities that may wish to consider undertaking similar initiatives will  
37 benefit from the details presented in the paper.  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Table 1: Paired t-tests for pre- and post-camp responses

Item	M (s.d.) Pre	M (s.d.) Post	t
<i>Job Prospects</i>			
1. IT starting salaries are higher than most other starting salaries 7.26***		4.95 (0.93)	5.87 (.88)
2. I am confident I will be able to get an IT-related job upon graduation from college	4.97 (1.10)	5.34 (1.25)	2.30*
3. IT professionals have great flexibility in their choice of jobs	5.34 (1.05)	6.20 (0.79)	6.79***
4. The demand IN AMERICA for IT professionals is growing	5.56 (1.17)	6.24 (1.04)	4.67***
5. IT professionals enjoy great job security	4.89 (1.00)	5.44 (1.04)	3.95***
6. I am well informed about the current state of the IT job market 10.81***		3.21 (1.40)	5.40 (1.11)
7. I am concerned that most IT jobs are moving offshore to countries like India	4.13 (1.37)	3.70 (1.73)	1.95
8. IT professionals can apply their skills in a wide variety of domains	5.89 (0.94)	6.44 (0.84)	4.17***
<i>Nature of IS Work</i>			
1. IT work is creative	5.98 (0.82)	6.45 (0.65)	4.37***
2. IT work is challenging	5.72 (0.97)	5.66 (1.11)	.39
3. IT work is interesting	5.95 (0.95)	6.48 (0.74)	4.25***
4. IT professionals mainly develop and modify computer programs	4.10 (1.41)	2.65 (1.49)	6.70***
5. IT professionals must have strong math and science skills	5.63 (1.06)	4.98 (1.49)	4.09***
6. IT professionals must have strong interpersonal skills	5.34 (1.09)	5.69 (1.10)	2.05*
7. IT professionals are often perceived as nerdy	4.90 (1.36)	4.94 (1.52)	.17
8. IT professionals usually work in teams, not alone	5.29 (1.18)	5.90 (0.92)	3.79***
9. IT professionals interact more with computers than with other people	4.02 (1.36)	2.82 (1.39)	5.36***
10. IT professionals must have strong problem solving skills	5.90 (0.76)	6.39 (0.82)	4.15***
<i>Personal Future in IT</i>			
1. I am confident that I will make my living as an IT professional 2.42*		4.23 (1.24)	4.56 (1.40)
2. I am committed to a career in IT	3.65 (1.42)	3.85 (1.58)	1.22
3. I am sure I will choose an IT related major in college	4.20 (1.41)	4.36 (1.53)	.98
4. I am certain that my future work will require a high level of IT skills		4.79 (1.20)	5.28 (1.31)

$p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < 0.001$

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

For Review



## References

- Becker, Jack, Nik Hassanand J. David Naumann, "Combating the enrollment downturn in IS/IT programs," Acapulco, Mexico, (2006), 2289-2298.
- Berry, Ronald, John Rettenmayerand James T. Wood, "An investigation of student perceptions about the information systems profession," *Journal of Computing Science in Colleges*, 21, 5, (2006), 130136.
- Cale Jr., Edward G., Charles H. Mawhinneyand David R. Callaghan, "The implications of declining enrollments in undergraduate CIS programs in the United States," *Journal of Management Information Systems*, 8, 1, (1991), 167-181.
- Carter, Lori, "Why students with an apparent aptitude for computer science don't choose to major in computer science," *Proceedings of the Technical Symposium on Computer Science Education*, Houston, Texas, 2006, 27-31.
- Crook, Connie W., "A study of career orientations in information systems students and professionals," *Proceedings of the ACM SIGCPR Conference on Computer Personnel Research*, San Francisco, CA, 1997.
- Gardiner, Adrian, Vladan Jovanovicand Han Reichgelt, "Second thoughts about a career in IT?," Salt Lake City, UT, (2004), 194-201.
- George, Joey F., Joseph S. Valacichand Josep Valor, "Does information systems still matter? Lessons from a mature discipline," *Communications of the Association for Information Systems*, 16, (2005), 219-232.
- Ginzberg, Michael J. and Jack J. Baroudi, "Career orientations of I.S. personnel," *Proceedings of the Computer Personnel Research Annual Conference*, Cincinnati, OH, 1992, 41-55.
- Granger, Mary J., Geoffrey Dick, Carolyn McKinnell Jacobsonand Craig Van Slyke, "Information systems enrollments: Challenges and strategies," *Journal of Information Systems Education*, 18, 3, (2007), p.303-312.
- Helps, C. Richard G., Robert B. Jacksonand Marshall B. Romney, "Student expectations of computing majors," Newark, NJ, 2005, 101-106.
- Igbaria, Magid, Jeffrey H. Greenhausand Saroj Parasuraman, "Career orientations of MIS employees: An empirical analysis," *MIS Quarterly*, 15, 2, (1991), 151-169.
- Lomerson, William L. and Lissa F. Pollacia, "Declining CIS enrollment: An examination of pre-college factors," *Information Systems Education Journal*, 4, 35, (2006), 1-13.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Looney, Clayton Arlen and Asli Yagmur Akbulut, "Combating the IS enrollment crisis: The role of effective teachers in introductory IS courses," *Communications of the Association for Information Systems*, 19, (2007), 781-805.

McLean, Ephraim R., Norman B. Bryan, John R. Tanner and Stanley J. Smits, "The structure of job attitudes among entry-level I/S professionals : A path-analytic analysis," *Proceedings of the Conference on Computer Personnel Research*, St. Louis, Missouri, 1993, 27-36.

McLean, Ephraim R., John R. Tanner and Stanley J. Smits, "Self-perceptions and job preferences of entry-level information systems professionals: Implications for career development," *Proceedings of the Computer Personnel Research Annual Conference*, Athens, Georgia, 1991, 3-13.

Pollock, Lori, Kathleen McCoy, Sandra Carberry, Namratha Hundigopalan and Xiaoxin You, "Increasing high school girls' self confidence and awareness of CS through a positive summer experience," *Proceedings of the SIGCSE Technical Symposium on Computer Science Education*, Norfolk, Virginia, 2004.

Purchase, Helen, Andrew Hussey, Wayne Brookes and David Leadbetter, "Fostering interest in information technology: Running a vacation school for pre-university students," *Proceedings of the Australasian Conference on Computer Science Education*, The University of Melbourne, Australia, 1997, 126-134.

Shao, Benjamin B. M. and Julie Smith David, "The impact of offshore outsourcing on IT workers in developed countries," *Communications of the ACM*, 50, 2, (2007), 89-94.

Trauth, Eileen M., Mike Reinert and Michael Zigner, "A regional IT occupational partnership for economic development," *Proceedings of the ACM SIGMIS Computer Personnel Research*, St. Louis, Missouri, 2007, 112-120.

Yehezkel, Cecile and Bruria Haberman, "'Computer Science, academia, and industry' educational project," *Proceedings of the SIGCSE Conference on Innovation and Technology in Computer Science Education*, Caparica, Portugal, 2005, 364-364.

## APPENDIX A: 2007 IT Careers Camps Program Site Visits

University Data Center – Tour of the data center in the form of an information scavenger hunt, followed by computer-based "Jeopardy" competition about data center terminology

IT Services Provider – IT consulting problem-solving competition, including matching resumes to job descriptions against the clock, finding the flaws and bugs in a website, writing a "job aid" that accurately describes "how to," and attempting to translate highly colloquial local English into global English.

Medical Device Manufacturer – Hands-on participation with surgical simulators and the DaVinci surgery robot, plus a tour of Industrial Design operations where surgical tools are designed and modeled using 3-D printers that produce wax models.

Maintenance Supplies/Services Provider – Operations problem-solving using IT, including how to use automation to stuff the right quantity of aspirin packs in first-aid kits, how to optimize the number of uniform sleeves and pant legs from a bolt of cloth while minimizing waste, determining the best routes for drivers and cheapest means of shipping using RFID and related applied technology

Consumer Products Company – Using virtual reality technology to cost-effectively measure consumer response to different packaging and on-shelf, in-store displays.

Financial Services Provider A – Using IT and applied technology to manage high volume lockbox activities, sort and process incoming checks and payments, automate and optimize data entry, and create deposit information

Airline – Using technology to calculate flight routes, minimize fuel consumption, and manage operations at the flight center, plus an opportunity to try the flight simulators utilized to train pilots.

Insurance Company – Problem-solving using technology in the insurance industry to calculate and assess risk and determine applicable premiums, manage limited office space for a growing staff, and assemble highly complex policies using digitized content management.

Retail/Grocery Chain A – Using IT to develop a wireless in-store device prototype, optimize the checkout experience for customers, harness mobile technology for management reporting, and improve store security.

Telecommunications Company – Disaster response and recovery themes in a competitive setting, as the students attempt to manage a hypothetical "city" after a tornado and create a strategy for restoring IT infrastructure to that city against the clock.

Financial Services Provider B – Bank operations competitions, including problem-solving a security breach scenario, the challenges of going cashless, operations headaches with multiple IDs/passwords issues, and general on-boarding issues for the bank that use IT for issue resolution.

Retail/Grocery Chain B – A "reverse" scavenger hunt at a busy department store in which the students search for as many possible recommendations of where Information Technology is NOT currently being used, but could be used to improve efficiency, cost-effectiveness, or the customer experience. Also a visit to the credit/financial processing center to problem-solve issues related to customer credit ratings and credit card issuance using IT and technology.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

For Review

**APPENDIX B – Feedback from Attendees (from  
[http://www.interalliance.info/prog\\_current.html](http://www.interalliance.info/prog_current.html))**

**Student Comments** (names removed to protect privacy)

"...This has been by, by far, one of the greatest things I have ever done. I truly enjoyed my experience with the program, the amazing things that we got to see and learn about, and the amazing people I met through it! What the program taught me I will never forget, and for that I will always be grateful. Before going to camp, I really had no idea what to expect out of the week, and only knew a very little about what IT actually was. By the end of the week, I really did not want my experience to end, begging to stay for another week. This truly opened my eyes to the importance of IT, and how just learning about it and taking at least a course in college will make you have an even brighter future... (This program) allows you to see the world of IT in such a greater and brighter light. This program allows you to expand your views on careers to a whole new level, and see things you will not see anywhere else.... INTERalliance is definitely one of those programs that I will remember for the rest of my life. The things I learned, the friends I made, and the opportunity I have been presented with are absolutely amazing, and I feel so blessed to have been a part of it."

"First I would like to thank you immensely for one of my most memorable camp experiences ever. I had so much fun bonding with other kids from around Cincinnati, teachers from high schools in the area, and employers in the area. It was honestly the most fun I have had at a camp which I thought would be mostly work. ( Second, I would like to extend my thanks to providing me with this great opportunity to further my career through contacts with important people. I think that this would help me greatly along the way. I think that this camp will help me and other students like me find a career path, or further one that we have thought of, greatly. Once again, thank you so much for the opportunity you have provided me."

"The INTERalliance camp was by far one of the best experiences I have ever had! The overnight really made the difference, because I believe it gave everyone a chance to bond closer than it ever would have if it were just during the day. What I personally liked best about this experience was the fact that it changed my mindset about how useful technology really is in the future. I know now a great deal more about what I am doing in I would maybe want to spend more time in the places we visited, such as (Consumer Products Company) because there is so much to learn and it was very interesting. Even if an individual is NOT interested in technology, I would definitely recommend this camp to them because it will dramatically change their perception of technology and its possibilities! INTERalliance has led me to realize that IT has SO much to offer, and I will definitely put it to use in my future job. Thank you for such a great week!"

"I just wanted to say that this camp was one of the highlights of my summer. It was WAY better than I expected. My favorite activities were the hands on experiences, like the da Vinci robot activity, the flight simulator at (Airline), and the activities at each place generally. I would suggest that you would allow more time at these activities, especially the flight simulator. ... I am definitely going to recommend this camp to my 2 cousins next year. I had a great time. Thanks again."

"... It was a great week. I will CERTAINLY recommend it to other students because unlike "other computer camps" this one opened the students' eyes about opportunities more than anything I have ever seen."

1  
2  
3  
4 "The camp as a whole opened my eyes to the many and varied job opportunities in  
5 Cincinnati. Also I want to go into some form of Sports Medicine or Therapy and I will now plan on  
6 adding a layer of IT to this because I now understand that IT can be used in almost every field  
7 and job. Thank you so much for the many great experiences and opportunities that camp has  
8 opened up for me and thank you for the camp itself. I really had a great time and learned a  
9 great deal."  
10

11  
12 "The IT Careers Camp really impacted and changed my life. I came into the program not  
13 really knowing what to expect. My English teacher had told me that it was supposed to be a  
14 really good program that involved technology and a program which would help me with  
15 college, so I decided to give it a try. ... Every day we were doing something new and fun and  
16 having mini competitions. I looked forward to going each day and coming home and telling my  
17 mom all the things we had done. This program has not only been an incredible privilege to be a  
18 part of but also a learning experiencing.  
19

20 The camp really showed me just how much Cincinnati has to offer. I always thought Cincinnati  
21 was just a little city with nothing exciting or big happening. However that perception really  
22 changed when I realized just how many big businesses we have housed here. There are so many  
23 things available here to us in Cincinnati and I never even realized it. It's really incredible just how  
24 much opportunity there is here in Cincinnati.

25 I definitely might use my interest in IT to expand my options in the future. I really want to  
26 become a writer but now that I see that being an IT professional isn't just about sitting at a  
27 computer all day, I might consider looking into it more when I reach college. My only request of  
28 change for the IT program is that it should have more diversity and involve even more schools.

29 I would definitely recommend this program to all students. Not only is it a good program that  
30 gives you the opportunity to see big businesses, but it also opens your eyes to all the  
31 opportunities in Cincinnati. I believe that all teens would love to have the opportunity to be a  
32 part of this program. You get exposed to things you wouldn't normally would and it also opens a  
33 lot of doors to job opportunities. It is a learning and growing experience that will really change  
34 your life. Thank you so much for allowing me to be a part of this camp, it really impacted me."  
35

36 "I would recommend, and I have recommended, this camp to other students because it  
37 was an amazing experience in which we were able to meet CEOs of major companies in the  
38 Cincinnati area. I do not know when I will ever have that experience again. Although I do not  
39 personally see myself as a computer programmer, I do see myself at least taking class in the IT  
40 field due to the opportunities that could come from just taking a single class. Thank you so much  
41 for such a great opportunity!"  
42

43 "I had so much fun last week. I loved learning about how IT is used in different businesses.  
44 My favorite part was that we stayed overnight. I believe that I was able to make more  
45 friendships because of the overnight. I also liked our assignment. I think that the fact that we  
46 were making a product to help others made us work even harder. I would definitely  
47 recommend this program to anyone that didn't really know what they wanted to do. I think this  
48 program pushed me towards a career in business. Thank you again for this great opportunity."  
49

50 "I would like to thank you and everyone else so much for giving me this wonderful  
51 opportunity to go to the INTERalliance IT Careers Camp. It was an amazing experience that I  
52 hope many more students will be able to encounter. It not only broadened my horizons on all of  
53 the different work fields that use IT in their daily routine. During this camp it also helped me meet  
54 and make many new friends that I am continuing to keep in contact with today. One of my  
55 favorite things about camp was going to all the different companies and doing hands-on  
56  
57  
58  
59  
60



1  
2  
3 activities. Also, I thought it was very neat to see how the variety of students seemed to have  
4 some sort of bond right off the bat. The nights were a blast and added an extra touch to the  
5 week. At night we really got to know each other. I think you should keep the overnight and I  
6 would recommend those to go to the overnight. I believe it made the experience that much  
7 better. Overall, the camp was more than I ever expected it to be, and I think anyone that has  
8 the opportunity to go and doesn't is making a terrible mistake. I couldn't thank you enough."  
9

10  
11 "This IT Careers Camp was a wonderful experiential learning opportunity providing  
12 manifold experiences incredibly relevant to my future job selection. This camp provided a series  
13 of lectures, field trips, and competitions that made IT/IM relevant, and forced us to use our  
14 creativity, intellect, and problem solving ability in competitions between different groups. These  
15 experiences resulted in my reconsidering IT as a profession, and relieved many of my fears  
16 regarding outsourcing. One of the parts of this camp which I enjoyed most was the freedom  
17 given via the overnight program. Whereas a day camp only allows for communication and  
18 interaction between the members of our group between the hours of ~9-5, this aspect enabled  
19 us to work around the clock, and, in turn, enabled us to develop our ideas in greater detail than  
20 would otherwise have been possible. This also provided a mini-college experience on the  
21 (University) campus, making me reconsider attending (University) Honors as opposed to (other  
22 program). This camp also made me debate the merits of an IT/IM degree versus the merits of an  
23 Engineering/Technical degree.... I wish to thank you, once again, for the time you spent  
24 organizing this camp, and want you to know how much I valued the experience and  
25 knowledge I gained. "  
26

27  
28 "INTERalliance 2007 was absolutely great. I loved the program it was a completely new  
29 experience. Before the program I had no idea what IT was or what companies such as  
30 (Maintenance Supplies/Services Provider) did. I learned that IT offers great opportunities in life,  
31 like traveling and you don't have to stay in one field your entire career. I'm more of a people's  
32 person and I learned that IT actually does deal a lot with people. Also I like the problem solving  
33 involved with IT. I definitely think Interalliance should expand so other high school students can  
34 be enlightened to the opportunities of IT. Even if the students are primarily interested in  
35 computers it would still be a great experience. It would give them a new outlook on their future  
36 and they might actually become IT professionals. But I just want to say thank you again for giving  
37 me this chance to learn about something new. I had a lot of educational fun in just one week. "  
38

39  
40 "The IT Careers Camp has completely changed what I thought of when hearing IT. I  
41 expected to come into the camp and only work on computers. The camp was a lot more  
42 enjoyable than I expected. I feel as if traveling to the different businesses and doing their  
43 challenges was the best part. I would completely recommend this program to any student that  
44 enjoys critical thinking and problem solving because it was such a great experience. The  
45 advisors enjoy the work just as much as the students. They always seem to be there when help is  
46 needed with tips and advice."  
47

48  
49 "Wow! It has already been almost one week since INTERalliance and I'm still telling  
50 everyone I know about it. I loved every minute of it. I think the most beneficial part was going to  
51 the different companies and meeting different people, especially taking their business cards. I  
52 loved being in the business setting just to see what went on and also to see what a job in IT  
53 would be like... I must also say that the camp was great because it was so organized! We always  
54 knew where we were going and what we were doing, and if not we could look in our day to  
55 day organized binders. It was wonderful that we got to take home a laptop everyday and keep  
56 it with us at all times so that if we had an idea for our Communication Enhancer we could slip it  
57 right in to our presentation.  
58  
59  
60

1  
2  
3  
4 "At the beginning of the week, I was kind of nervous to be alone in my small group with  
5 no one else that I knew, but towards the end I had met some of the coolest people in Cincinnati  
6 from all over! In conclusion, I am really grateful to INTERalliance for providing me with endless  
7 opportunities and knowledge. Thank you so much!"  
8

9  
10 "I thought the field trips everyday to these huge corporations were amazing. I found it so  
11 intriguing to listen to the big reps and also found it flattering how much they were interested in  
12 us. The camp really made my confidence boost and showed me that I can be capable of a lot  
13 more than I think. I believe I speak for a majority of us when I say they boosted our confidence. It  
14 lets us know in an actual 'see and believe' sense that if we put in the work we can be as high up  
15 and successful in a company as we want while doing what we love.

16 At first I was apprehensive about going to camp and when you said at the beginning of  
17 camp that it might just change our lives a little, I was thinking like, "What is this guy talking about.  
18 I don't even like all that computer geeky stuff anyway." But let me tell you, I think this was one of  
19 the best experiences I have ever had. And I am not just saying that because you told me to  
20 brag about the camp. I am being totally honest. As camp moved through the week, I just  
21 wanted to grow up so fast so I could begin this new career path that all of you have helped set  
22 in front of us. I am just so ready to work my way up because I now know my options and am  
23 grateful that someday I could work with the people at camp in Session 2.

24 I really did love everything about camp. ... it because it truly opens your eyes to all the  
25 opportunity in Cincinnati. I know you keep telling us that over and over again, but it is so true. I  
26 do think it is a good experience to leave your hometown to go elsewhere for college, but there  
27 is no doubt in my mind that I am coming back! I would want other bright students to know all the  
28 opportunity in Cincinnati and that companies want them so they can help make the company  
29 that I might work in one day better.  
30

31 Ah! Okay writing to you about camp has just made me excited all over again. I never  
32 thought that writing about how IT camp is so great would ever really phase me. It does! IT is  
33 nothing like I thought it was, as I had mentioned the previous week. It is crazy how much I have  
34 learned and how much it has changed my outlook on so many careers. I still don't know what I  
35 want to be (since I change it every day) but I know that I want to do something with IT or with  
36 people working in IT.

37 I can also never thank all of you, including the business people and staff at camp, for the  
38 welcoming gestures and making all of us feel wanted and very comfortable. Also thanks for  
39 giving me this experience of a life time. But just so you know, I really am not exaggerating on  
40 how glad I am that I went to this camp. I think the InterAlliance mission is GREAT and I will always  
41 speak highly of this program. I will definitely keep in touch and I already know I am going to  
42 have so many questions about college, future careers and the P&G internship this summer.  
43 THANKS SO MUCH."  
44

45 "The IT Careers Camp really taught me so much. Before the camp I didn't know too much  
46 about Information Technology - I thought it was mostly about helping people with their  
47 computers. But now I know that it is so much more than that. I learned that IT was in everything,  
48 especially in business. And I learned that IT only exists in business to solve problems! This camp  
49 has definitely made me consider going into a career with IT and staying in Cincinnati for college  
50 and work, which I was not necessarily planning on before. I think what I liked best about the  
51 program was going to all the different companies and seeing how they use IT. I also developed  
52 many friendships from this camp that I'm sure will be lasting.  
53

54 I'd say if there was anything which needed to be changed, the camp should be longer!  
55 It was so much fun, that one week was not nearly long enough. I would recommend this camp  
56 to other students, because it is a great experience. It can completely change your mind about  
57  
58  
59  
60



1  
2  
3 what you thought of IT. It is fun and interesting to work with the companies and see what's going  
4 on behind the scenes. It is also a great way to meet people. All the students at the camp come  
5 from different schools and backgrounds, and you really learn a lot about teamwork. The camp  
6 was very fun, and I would go as far as to say it was the best week of my summer."  
7

8  
9 "This week was probably the most enjoyable and productive week I have ever had. It far  
10 exceeded my expectations. It was really great working with a team on a common goal. I also  
11 made so many new friends from all over Cincinnati. It was great meeting all the executives from  
12 the different companies. I learned that IT is not just about programming. I had previously thought  
13 that programming was IT. Now I know IT is there to ...solve problems! I would just like to thank you  
14 for making this week such a huge success."  
15

16  
17 "I had been, for a while, very unsure of what I was considering for the rest of my life in  
18 terms of a career path and all, and eventually ended up on early education with a possible  
19 minor in music as both children and music (specifically vocal) are strong passions of mine. I was  
20 decide finally on that and even before making it never ever considered IT... as being an interest  
21 in a career for me in any aspect. I was honestly afraid of going to camp. I can say that I am a  
22 bright person but when it came to technology I wasn't really a computer genius or anything and  
23 were worried about feeling dumb at camp, but although I knew I did not have the same  
24 knowledge as some of the other members, I never felt that way. You have now confused me  
25 again, which as I remember, was your goal in the first place, and what I want to do when I grow  
26 up and get into the real world is still in decision again... I do not know if my decision will change,  
27 but there is a possibility it might alter to fit some sort of business somewhere instead. Your camp  
28 was amazing, and I would just like to tell you thank you. I have made some amazing friends and  
29 have come out of it with amazing new possibilities and new knowledge that I never dreamed I  
30 could have before. I appreciate you so much as well as everyone else who put this program  
31 together. I would recommend it to anyone who asks, or, well, doesn't ask, for that matter. I  
32 would recommend it to anyone. It was an amazing experience for me and I think it will change  
33 me for the rest of my life. Thank you again I truly loved the camp and think it is one of the best  
34 opportunities for people our age out there right now, it was amazing!"  
35

36  
37 "I loved participating in the INTERalliance camp this summer. When I first heard about the  
38 camp through my school, I thought that I would be the last person to ever attend the camp. I  
39 am not one of those people that is into computer programming and some of the more  
40 stereotypical "technology" activities. However, the more the girls talked to us, the more I realized  
41 that this camp might be good for me. I dream of one day becoming a surgeon, a field where  
42 technology is present more than ever now. The INTERalliance camp opened my eyes to the  
43 technology present in almost every job, whether it be actual software programming or  
44 performing surgery with the DaVinci robot. ... (A) great aspect of the camp was that I met and  
45 talked with many key people in the business world; through INTERalliance, I got my name out  
46 there, making contacts that have the potential to greatly influence my career in the future. I  
47 would recommend INTERalliance to almost anyone. No matter what career path you are  
48 considering, INTERalliance will give you that extra boost above other students your age, giving  
49 you more experience in the business and technology world, experience that will last a lifetime.  
50 Thank you INTERalliance!"  
51

52  
53 "One thing is for sure--I really underestimated this camp. I did not think we would be  
54 seeing and doing so many incredible things over the course of five days! This camp really did  
55 open my eyes to the new opportunities in the IT (or I M) field- right here in Cincinnati!...  
56 Interalliance camp has also truly changed how I approach a problem and how I look at the  
57 world and technology. I got to go behind-the-scenes and see how business are run, and very  
58  
59  
60

1  
2  
3 few of my peers can say they've had that chance. I was reluctant at first to attend this camp,  
4 but I am really glad that I did decide to go! Never in my high school years -or perhaps my entire  
5 life- would I have had the opportunities that I did and do now!"  
6

7 "I absolutely loved the INTERalliance experience. Being able to see that the world of  
8 technology isn't out of grasp for younger people was an amazing thing to see. The visits we  
9 went on were interesting and fun-filled; I feel like you really knew what we teenagers enjoyed.  
10 There was never a dull moment. By seeing HUGE corporations that couldn't function without IT  
11 while working on our own proved that IT is on all different levels...I loved it! I would recommend it  
12 to other students because it is an amazing experience, and it really shouldn't be missed."  
13  
14

15 "The Interalliance Camp was an amazing experience for me. I went into the camp  
16 knowing almost nothing about careers in IT, and never ceased to be amazed at the wide  
17 variety of interests that these careers can encompass. I also realized that you don't have to be  
18 an incredibly strong math student in order to implement IT into your career. I was so surprised at  
19 how many areas of life that IT pertains to- from grocery shopping to clothing design. I've always  
20 been very interested in medicine, so being able to visit the (University) College of Medicine and  
21 use the DaVinci Surgical Robot was an amazing experience for me. It was also interesting to see  
22 the influence that IT has on the field of medicine, and how many innovative techniques and  
23 tools are being invented and used, right in Cincinnati! I had no idea how many opportunities  
24 were waiting for me, right in my hometown!"  
25

26 "The INTERalliance camp was a great experience. It really did a lot to open my eyes to  
27 the world of IT. Before then I thought of IT as sitting at a computer programming all the time. It  
28 showed me all the different career options IT has to offer and just how much human interaction  
29 there is in a field I previously thought didn't involve any. I had many great experiences during  
30 the INTERalliance camp. I met a lot of wonderful people, from others in the camp to the people  
31 running the camp to the many corporate people we met throughout the camp. One of the  
32 best experiences was the (Retail/Grocery Chain A ) visit. The hands on real world examples really  
33 helped me to appreciate and understand what people in IT really do. ... I would recommend  
34 the INTERalliance camp to anyone interested in any science or business related career attend  
35 the INTERalliance camp. It was by far one of the most eye opening experiences ever."  
36  
37

38 "I thought that the INTERalliance was a great opportunity to learn about the IT job field. I  
39 went into the camp thinking that IT people just sit at their desks everyday and write computer  
40 programs. By the end of the first day of camp I realized that I was terribly wrong. There are so  
41 many jobs inside of the IT area and it amazed me. My favorite part of the program was visiting all  
42 of the different locations. My favorite places were (Airline) and (Financial Services Provider A). At  
43 (Airline)we were allowed inside of a flight simulator and to see some actual pilots doing tests. It  
44 was very interesting. My other favorite place was (Financial Services Provider A) because he did  
45 activities that involved designing machines to do certain things and then we saw how the real  
46 machine worked. It was very insightful..."  
47

48 "When I joined this program I was not so fond of the IT field because I thought that IT just  
49 meant computer programming. What I learned at this camp was completely different. IT can be  
50 incorporated into any field, any job or anywhere. IT seems to be a growing field that is popular in  
51 today's world. Definitely, when I apply to college I will consider the IT field. Finally as to career  
52 opportunities in Cincinnati, many of the companies here look like amazing places to work. I  
53 thank you and the INTERalliance for giving me this great opportunity."  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 " I felt going into the IT Careers Camp that I was going to learn things like computer  
5 hardware and programming. However, as I quickly discovered, it was not about that at all. Even  
6 though programming found its place in our group presentation, I was still surprised by how IT  
7 influences the world, especially at Stepping Stones. I also had the impression of Cincinnati being  
8 a dead city walking in Monday morning. I quickly realized that this perception was true only to a  
9 cultural level, and that the job opportunities in the area are more than abundant. Finally, the  
10 fact that there was only a total of 80 people that participated in the camp showed just how  
11 open the job market is for people with my interests. I can only imagine how many openings will  
12 be left even after all 80 of us are employed in high-paying IT careers."

13  
14 "After attending the IT Careers Camp, I no longer perceive a career in IT as only working  
15 with a computer all day. At the camp, I learned that IT is all about problem solving. I also  
16 learned that there are many opportunities for a career in IT in almost every company. In the  
17 future, I am hoping to take a course in IT during my college education because I know that the  
18 information would help me in my teaching career. I enjoyed the program very much and I  
19 learned a lot. I really enjoyed working on the communicating device project with my team. I  
20 think it would have been better to have spent more time with the people at Stepping Stones so  
21 we could have known our client better. I also liked every one of our trips to the companies,  
22 especially (Maintenance Supplies/Services Provider)."

23  
24 "Coming into the Interalliance program at UC, I honestly thought it was just going to be a  
25 bunch of really smart people sitting behind computers all day. I was totally wrong. IT is about so  
26 much more than just computers. One of the main aspects of IT that was really emphasized at  
27 the INTERalliance program was communication. ... While we were working in our groups to  
28 design a product, it was crucial that the team worked together. I learned that it is very important  
29 to be able to collaborate together.

30  
31 ...I also learned that IT is incorporated into everything that is done today. No matter what  
32 field you decide to go into, whether it be medicine, or product packaging, IT is present.... I think  
33 that one of my favorite parts of the trip was the times we spent with our groups collaborating on  
34 our Stepping Stones project. We were able to have fun, but at the same time, still be very  
35 productive and create an amazing product that would help enhance communication.  
36 However, my favorite activities were the ones that we participated in at (Financial Services  
37 Provider A). Each team had to think outside of the box to solve real life problems. It was  
38 amazing to me to see how quickly our teams came up with solutions to these problems."

39  
40 "I really LOVED the INTERalliance IT Careers Camp... I learned so much about the world of  
41 Information Technology that I had no clue even existed. So, when I started going to the major  
42 corporations in our Cincinnati area, I began to realize just how important IT is in today's times.  
43 However, what surprised me the most was the wide range of uses for IT in the every type of  
44 business, which is not only in computer companies. Also, I wasn't expecting Cincinnati to be so  
45 full of opportunity and importance in the IT world. I definitely learned a ton of information from  
46 Interalliance about Cincinnati and now I know that it is the best place in the world that I could  
47 have grown up in! Thank you sooooo much Interalliance for teaching me so much about IT..."

48  
49 "The INTERalliance program was a great experience for me. I never knew how important  
50 Cincinnati is in the IT world. I learned so much about the large companies that are located right  
51 here in the city, and how significant they are in the country. The program taught me that there  
52 are many opportunities for great careers in my hometown, and it caused me to consider staying  
53 in Cincinnati in the future. I'm looking forward to spending more time with the INTERalliance and  
54 with the many great people I met during the program."

1  
2  
3 "INTERalliance brought me up to date on the world of Information Technology. I also  
4 learned that IT isn't just a bunch of computer nerds sitting in front of computers all day. Real  
5 people with real jobs use IT on a daily basis. This includes doctors in surgery, car manufacturers,  
6 and companies controlling the shipping of thousands of packages. Even though I have had the  
7 aspirations to become a hard-core computer programmer, I am now convinced that I should  
8 double major in another field, so I can use my knowledge of computers in both computer  
9 programming and some other field, such as Biochemistry.

10  
11 ...I was expecting a bunch of nerds (like myself) sitting around computers typing away, in  
12 reality the camp is more geared towards kids who are interested in learning more about IT and  
13 how it is applied to the real life. In my mind, I find this information far more helpful than any  
14 computer programming camp..."

15  
16 "The IT Careers Camp showed me that the world of IT is an exciting field with many things  
17 to offer. IT taught me to analyze a problem and work with a team of different personalities to  
18 eventually solve the problem. My favorite part of this program was the experience we received  
19 in all different aspects of the IT world. This camp really opened my eyes to all the opportunities  
20 right here in Cincinnati. I would recommend this camp to other students, because not only did I  
21 learn from the multiple business' that hosted us this week, but because of the things I learned  
22 from working with my team. Working with my team to solve a common problem and learning  
23 from them was a priceless experience."

24  
25 "The INTERalliance IT Careers Camp has showed the many avenues an IT career can lead  
26 to. I got to see how IT corresponds with banks, insurance companies, airports, and more. The  
27 competitions were very fun and instructive.... it is such a good opportunity to learn more about  
28 different careers and meet influential people, as well as have fun!"

29  
30 "Attending IT Careers Camp truly broadened my view on IM. By visiting (Insurance  
31 Company), (Airline), and other businesses here in Cincinnati and seeing IT in action, I realized  
32 "Hey, I want to use this in my career." Originally, I had planned on taking engineering courses,  
33 but now I am interested in studying IT/IM.... (t)he best part about the program was meeting and  
34 working with new people. I know that I made several new friends. Thank you so much for  
35 allowing me this opportunity."

### 36 37 38 **Comments from Team Advisors (High School Teachers/Counselors):**

39  
40 "Meeting my "team" on Monday morning (the first day of camp) I was introduced to a  
41 group of kids that came because: "They had nothing else to do", "Their counselor (or mom)  
42 made them", "Maybe it would look good on a resume". Frankly they all 5 had a rather "I  
43 haven't a clue what this is about and I don't really want to be here attitude".

44  
45 Well, all the above changed very quickly. The camp was very fast paced, fascinating  
46 field trips for the kids (and myself), and incredible career information. I quickly bonded with  
47 what became an amazing group of young people that were just so excited about the camp  
48 that they were all bummed out on Friday when it was over. The kids (and I) found out what IT  
49 was all about. Having been in the computer field myself since the birth of the TRS-80 back in the  
50 late 70's, I even found out what how IT had changed. The opportunities that we all had to talk  
51 with major players in businesses around the Cincinnati area was frankly, fun and informative.

52  
53 I believe that my "team" of kids are taking back amazing experiences from this camp,  
54 information about careers, opportunities in Cincinnati, and knowledge about IT. My students at  
55 school are getting a teacher next year that will be better to direct them career wise in their  
56 pursuits.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Next year I will be much more able to find the right student for the camp. This year I was pretty much looking for the "computer geek". Next year I will look for the best and the brightest but they don't have to be so focused on programming.

I have already talked with the school counselor about the opportunities that were presented to my female students and myself from someone at UC. She couldn't be more excited to have a career path opportunity to share with some of our girls. After listening to my excitement about the camp, she too is now thinking about students that could be good candidates next year. This year when I asked for names for the camp, it went onto deaf ear as no one really "knew" about what InterAlliance was and it was just "another" thing to do."

"...There is hope for the future in these and other savvy teens I've met this summer (I also did a water quality camp and solar energy camp). So THANK YOU for setting up this IT camp.... Team (Retail/Grocery Chain B) was excited about their project to the point that they contacted OLPC, who in turn, responded with interest in their adaptations of the laptop to benefit autistic/down syndrome clients. Maybe they really will form their company partnership. It's so important that teens be aware of their options. The companies, you, and Shannon et al did a super job to show them the available options."

For Review