Requirements Analysis and Designs

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Root Concept

Vision Statement
An electronic ticketing system that allows University of Oregon (UO) students to easily and efficiently obtain student football tickets, as well as to exchange or to relinquish obtained tickets.

Rationale
The electronic ticketing system would make it efficient for UO students to obtain tickets instead of standing in line for hours at the ticketing office. The reduction of waiting-time would reduce the chances of students losing sleep or skipping classes in order to obtain these tickets. The ticket-exchange and ticket-relinquishing feature provides students with a forum to swap tickets, and this would reduce ticket wastage. Ticket wastage is one of the major concerns of ADFC (Athletic Department Finance Committee — the committee that deals with student ticket distribution), and this reduction in ticket wastage can aid ADFC in securing more student tickets for future games. An electronic ticketing system can also provide ADFC with statistical information that is more accurate and valuable than the current ticket stub-counting data collection methodology.

Problem Statement
Each year, the ADFC negotiates contracts with the Athletic Department for student tickets to UO football games. These student tickets are paid through incidental fees, which are paid by UO students. In 2002, $1,169,159 was paid to the Athletic Department for tickets to be distributed amongst students\(^1\). Only 6,100 football tickets per game are available to the 20,000 registered students. These tickets are released for distribution two Mondays before the game, and they are usually sold out by the second day.

Due to the quick sellout of the limited student football tickets, students have had to stand in line for hours in order to get a ticket (Figure 1). According to an article in The Daily Emerald\(^2\), hundreds of students were in line at the Erb Memorial Union (EMU) ticketing office to get tickets to a football game. Some of these students were there since 5 AM even though the ticketing office opens at 9 AM. In order to get these coveted football tickets, some students skipped classes while others sacrificed sleep.

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According to the chairperson of ADFC, Kathryn K., out of the 6,100 tickets distributed to students, only 5000 tickets are used on the day of the game. This poses a problem for ADFC when they try to renegotiate for more student tickets the next year. The Athletic Department uses the unused tickets as grounds for denial for more student tickets, as they feel that the extra 1000 “seats” should be filled up before more “seats” should be allotted to students.

Another major problem faced by ADFC is the fact that there are some students who “cheat the system.” Cheating the system includes using counterfeit tickets, students obtaining tickets for their friends (who has a UO student card but are not currently registered), and scalping tickets. Tighter measures have been put in place to cut down on the number of counterfeit tickets such as foil printing on tickets such as the one shown in Figure 2. While tighter measures were put in place to reduce the number of ticket misuse, the current system does not allow for further verification of students, especially at Autzen Stadium on the day of the game.

**Proposed Solution**

*DuckTix* is a system that allows students to pre-register for football tickets. The students can also specify which game they would like to attend. The students will be notified of their allotted tickets. The system will determine how the tickets are allotted to students. Since these student tickets are only available to registered students, *DuckTix* will be networked with UO's *Banner information system* (UO's student record database system) for verification purposes. *DuckTix* also provides students with a forum where they can exchange tickets for a different game or to relinquish their tickets to other students.

*DuckTix* also allows administrators to create a game event for the students to pre-register. The system should provide administrators with a way to edit or remove a game event due to changes made to the event itself.

*DuckTix* will be implemented as an added module to *DuckWeb* (UO’s student information system) since most students know how to use that system. Furthermore, *DuckWeb* is already networked with UO's *Banner information system* so verification of students' eligibility does not need to be duplicated in the preferred integration. However, due to limited resources and the complexity of developing a *DuckWeb* module, the proposed system will be developed as a Java application as proof-of-concept.
Requirements Analysis

Problem Scenarios

John tries to get a football ticket.

John is a senior at the University of Oregon. Like many fellow students, he has a part-time job while taking 16 credits. He has never been to a UO football game, but he has always thought about going. He has decided, that while he is still at school, and paying for incidental fees, he might as well see at least one game.

On Monday, the student tickets are up for grabs to all students on a first-come-first-serve basis. The tickets are available either on campus at the EMU or at Autzen Stadium. John does not live near Autzen Stadium, so he decides to stop by the EMU during a short break between classes. However, to his dismay, there is an enormous line wrapped around the inside of the EMU. Being a good student, he decides that he cannot risk being late for his next class, so he leaves. After John’s last class of the day, he must go to his job, and thus he will have to try to get a ticket tomorrow.

On Tuesday, John’s schedule leaves not much free time for getting tickets. So again, being discouraged by the long line, he decides not to wait for a ticket. On Tuesday night, however, John decides to get up early the next day so that he can get his ticket before classes start.

On Wednesday, 6 AM roles around and John reluctantly wakes up to get ready for the day. Homework, group projects, and studying for midterms have turned sleep into a rare and precious commodity for John. Despite being tired, he would still like to see a football game, so he pulls himself out of bed, and heads to the EMU.

John gets to the EMU early enough, so that the line is fairly short. However, once the ticket window opens, John notices some noise and confusion in the front of the line. He walks up to see what is going on, and sees that Jenny, the person working at the ticket window, is taping up a sign: “Student football tickets SOLD OUT.” John screams out in frustration, but unfortunately there is nothing he can do.

Aaron tries to get a football ticket

Aaron is a hardcore, diehard Duck football fan. He is really looking forward to this year’s football season, especially the upcoming Stanford game. It is Monday at 5:30 AM – two weeks before the Stanford game. Aaron is up, showered, and ready to head off to the EMU to wait in line for his football ticket. On his way to campus he daydreams of how proud he is of himself for waking up so early so he can be first in line for football tickets. As he nears the EMU he begins to sense something is not right. There is a high rate of people traffic near the EMU. As he arrives he is suddenly overwhelmed with panic. The line is all the way out the door and down the sidewalk. How could this be? The EMU has only been opened for ten minutes. Immediately Aaron goes inside to find someone he knows in line closer to the ticket booth. He is amazed at the number of people in line. After combing the line with his eyes, Aaron finds his good friend, Will. He goes up to Will and pleads with him to let him cut in line. Will looks at him and laughs. He explains to Aaron that he has already been in line for 2 hours before the EMU even opened.
He further goes on and explains that the students in line behind him would not let someone cut in front of them. Frustrated, Aaron walks back outside to get to the end of the queue. Much to his surprise, the line has grown longer since. By this time it is now 6:30 AM. Aaron has a Math class at 10:00 AM. He decides to skip that class since he really wants to go to the game no matter what so he gets in line. Little does he know that the Math professor is going to give a pop quiz that day.

It is now five and a half hours later and Aaron is just walking out of the EMU with his ticket. Although he is very relieved to have finally obtained his ticket, he is kicking himself for missing his class. Aaron mopes his way home and when he gets there he goes straight to his room and hides his ticket in a very secure, secret place.

**Administrator is concerned about fraud**

Kate is the chairperson of ADFC. She is responsible for most of the issues concerning student athletic ticket distribution, including communicating with the Athletic Department in order to request more tickets, working to ensure student attendance at athletic events, and trying to prevent student fraud at the events.

Recently the Athletic Department contacted Kate, explaining to her that the number of students who are sneaking into football games is getting out of control. It has come to the department’s attention that students as well as graduated students are sneaking into games using outdated tickets and old student identification cards. The Athletic Department explained that when students sneak in without tickets, they take up seating that would be available for paying ticket holders from the community. They also explained that if Kate did not find a solution to the ticket fraud, the Athletic Department would have no choice but to restrict the number of available student tickets by 1000 for next year. Since this would create even more complaints on her desk by her fellow students in search of valid tickets, Kate needs a solution.

While Kate is busy trying to come up with a solution to the student ticket problem, she receives an email from the Student Affairs office informing her of the large occurrence of ticket scalping on campus. It seems that students are selling their own free, student seats to other students for upwards of twenty dollars. Kate is informed that she must find a solution to this problem as well.

**Jane petitions for more student tickets**

Jane is a current UO student who has acted as the student representative to the ADFC for the last several years. Jane is a diehard fan who loves Duck football and is currently relishing the end of a successful football season. Unfortunately Jane's mood is tempered by the fact that once again she must petition the Athletic Department for an increase in the number of student tickets for next football season.

Jane knows that there has always been a demand for tickets that exceeds the number that is allotted by the Athletic Department. In the past years, Jane has been unsuccessful in her attempts to have the number of student tickets increased. Although she has been able to consistently cite the fact that student tickets regularly sell out, the administration has always countered with the fact that actual student attendance to football games is far less than 100% when denying her request for additional student tickets.
Jane prepares her argument to the administration by documenting the fact that all student tickets were completely distributed to students for every game in the season. Additionally she looks through the file that contains hard copies of student feedback to the ADFC and selects several feedback forms that appear well written and that would help support her argument in favor of a more student ticket allotment.

Feeling reasonably well prepared, Jane makes her case to the administration. Unfortunately, once again her request for an increased capacity is denied because the administration is convinced that until student attendance at games increases there is no reason to increase the allotted number of tickets.

**Stakeholder Profiles**

There are four groups of stakeholders involved, namely administrators, die-hard fans, fair-weather fans, and parents. Administrators include the personnel in charge of the distribution of the student football tickets, namely the ADFC. Die-hard and fair-weathered fans are registered UO students who are qualified for free student tickets to the games. The difference between the two types of fans is that the former would go to almost all of the games, and had been following the sport zealously, while the latter includes students who want to go to football games but may decide not to go to the game because of bad weather, or because their friend decided not to go. The parents stakeholder group consists of parents who pay for their children's (students who attend the football games) education. Table 1 below summarizes the stakeholders developed from *DuckTix* field studies.
Table 1. Stakeholder profiles developed from *DuckTix* field studies.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>General Group Characteristics</th>
</tr>
</thead>
</table>
| Administrators  | *Background:* This group includes the ADFC members and consists primarily of students — most of whom are familiar with using web-based programs, such as browsers, emails, and standard office applications. This group consists of a fair mix of PC and Mac users.  
*Expectations:* A computerized system that allows students to pre-register themselves for student football tickets, which in turn reduces the number of ticketing agents needed. Consequently, reduces the long lines of students wanting to get tickets. To have a forum where students can easily and quickly trade tickets or relinquish tickets so more students can show up at the game.  
*Preferences:* Strong concerns about equal access of the system available to students, as well as 100% turnout of students who has the tickets. Willing to work online or with an easy-to-use application. |
| Die-hard fans   | *Background:* This group consists of registered students who are eligible for the free student football tickets. They are UO Duck fans and go to almost all of the games held at Autzen Stadium, rain or shine. They have skipped classes and waited in line for hours to get tickets to home games.  
*Expectations:* A faster way to get tickets to the football games. Priority seating provisions for them since they go to almost every game.  
*Preferences:* Dislike the idea of a priority system that may potentially refuse them tickets to the game they want to go. They do not mind waiting in line for hours. |
| Fair-weather fans | *Background:* This group consists of registered students who are eligible for the free student football tickets. These students have either been to a game or two occasionally or have never been to a game at all. They have a desire to go support the Ducks, but may decide not to go to a game due to bad weather or if another friend decides not to go. They do not like standing in line for hours just to get a ticket.  
*Expectations:* A system that provides fair distribution of the student football tickets. They believe that, since they "paid" for these tickets through incidental fees, they should be granted an equal access method to get these tickets instead of standing in line for hours for a ticket.  
*Preferences:* Likes social aspects of going to a game. Tends to go to game only with friends. |
| Parents         | *Background:* This group consists of parents of registered students at the University who will or have gone to football games. These parents are generally paying for the students' education.  
*Expectations:* They expect their children to go to class, and would like their children to utilize resources that their money pays for.  
*Preferences:* Strong concerns about students skipping classes and losing sleep over football tickets. Does not want the University to create incentive for students to skip classes. |
Field Studies Methodologies

The field studies were done through questionnaires. Three sets of questionnaires were developed for the administrators, the students (includes die-hard fans and fair-weather fans), and parents. You can find these questionnaires in Appendix A.

Our group first met and decided on what kind of information we wished to extract from these questionnaires. After doing so, we brainstormed ideas and questions for these questionnaires. After finalizing our questionnaires, we went out to collect the data. The collection method is slightly different depending on which group we are surveying.

For the administrators, a group of two set off to find out who the person in charge was, and after being given the "run around," finally discovered it was the ADFC chairperson we should speak with. After making an appointment, we set off to speak with her, Kathryn K. (Figure 3). We asked her questions from the questionnaire and wrote her comments down. The interview took about 45 minutes.

For the students, we divided ourselves into two groups and went to the EMU to randomly interview students. One group went to survey students who were waiting in line for football tickets at the EMU ticketing office. Based on their responses, we decide whether they are considered a die-hard fan or a fair-weather fan.

For the parents, we had telephone interviews with selected candidates. During the telephone interviews, we wrote down their responses to the questions on the questionnaire.

After the field studies, our group met and sorted out the data. Based on the responses, we further refined the stakeholder groups by narrowing down the group. For example, initially we thought that the students stakeholder groups would include students who would not want to go to a football game, but later realized that they would not even be part of the stakeholders, as they are not affected by the proposed system. Also, prior to interviewing the administrators, we did not know that ticket fraud and misuse is a major issue to the ADFC. From this, we factored their concern into our proposal. After consolidating the information gathered, we summarized these stakeholders and present them in Table 1 as shown on page 6.
Activity Design

Overview
The two system designs are the First-come-first-serve System, and the Priority Lottery System. Both systems are paperless ticketing systems that require students to pre-register for tickets to the games. The students can also trade tickets within the system. The two system designs are very similar, however, the key difference is in how the tickets are allotted to students.

The First-come-first-serve System is very similar to the current system in that tickets are allotted to students based on when they register. The difference from the current system being that students will be in front of a terminal instead of waiting in line at the ticketing office. One key improvement of this system is that it gives die-hard fans more of an advantage in getting the tickets. This is important to ADFC as die-hard fans tend to show up at the games, and attendance is a concern for ADFC.

The Priority Lottery System would allow students to register over a period of time, and tickets are allotted to students based on a weighted priority schema. The key advantage of this system is that it gives fair-weather students a chance to go to the games. Furthermore, by spreading the registration over a period of time, the servers would not be bombarded by registrants at a specific time (usually at the first hour of registration).

Activities
Both First-come-first-serve System, and Priority Lottery Systems have similar activities as described above. The difference is in the sequence of activities. These high-level activities are grouped into student activities, and administrator activities.

Student Activities
Students can log into DuckTix, which verifies students' eligibility to register for a game. Eligible students can select an upcoming game to register. Students can exchange tickets to a different game through DuckTix. They can also relinquish their tickets to other students through the system. Students should receive confirmation on allotted tickets, as well as other important announcements. Students can send feedback to administrators. Lastly, they can log out of the system.

Administrator Activities
Administrators can log into DuckTix. These administrators can create a game, edit a game, and remove a game. Administrators can send notification to students who are registered to a game through DuckTix. They can also get statistical information from DuckTix. They can also read the feedback from students through this system. Lastly, administrators can log out DuckTix.
Real-World Metaphors

Table 2 summarizes the metaphors for the objects and activities of the DuckTix system.

Table 2. Metaphors for objects and activities of the DuckTix system.

<table>
<thead>
<tr>
<th>DuckTix Activity</th>
<th>Real-World Metaphor</th>
<th>Implications for DuckTix Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating a game event is like organizing a...</td>
<td>Picnic</td>
<td>Food should be coordinated with different groups to prevent duplicate dishes.</td>
</tr>
<tr>
<td></td>
<td>Budget</td>
<td>Attention to detail, entry of data.</td>
</tr>
<tr>
<td>Monitoring students turnout at the game is like being a...</td>
<td>Chaperone</td>
<td>Strict rules are enforced, be as invisible as possible</td>
</tr>
<tr>
<td></td>
<td>Teacher</td>
<td>Teaches and excites students in the subject, while encouraging them to participate in class events. Makes sure students are heard if they have problems.</td>
</tr>
<tr>
<td>Registering for a game is like buying a...</td>
<td>Lottery</td>
<td>Hope to win the pot, but not with the guarantee of winning. Expects fair play for all lottery players.</td>
</tr>
<tr>
<td></td>
<td>Harry Potter novel</td>
<td>Limited amount available and is highly anticipated. Likelihood of getting the book on the second day of sale may be slim to none.</td>
</tr>
<tr>
<td>Relinquishing game tickets is like abandoning...</td>
<td>Trash</td>
<td>Should be easily disposable, and should be disposed at the right places, such as trash bins.</td>
</tr>
<tr>
<td></td>
<td>Your girlfriend or boyfriend</td>
<td>Should be done delicately. The right setting and the right mood can soften the blow of a breakup. A wrong abandonment of the lover can lead to upsetting outcomes.</td>
</tr>
<tr>
<td>Trading tickets is like...</td>
<td>Recycling</td>
<td>Should be easily available and should be done in a timely manner. Proper sorting is needed.</td>
</tr>
<tr>
<td></td>
<td>Deciding what to eat</td>
<td>The palate depends on the mood, and can change. A spontaneous moment could take one to McDonald’s for a hamburger or to the Oregon Electric Station for a steak.</td>
</tr>
</tbody>
</table>

Activity Scenarios

The following activity scenarios are group by the two system designs — First-come-first-serve System and Priority Lottery System.

First-come-first-serve System:

Kate conquers fraud

Using the DuckTix system, students planning on attending football games no longer need paper tickets. In order to gain access to Autzen Stadium, football game attendees are required to swipe their ID card through a card reader at the gates. The reader and gate system will not allow a student entrance into the game unless he or she is a UO student currently registered for classes and has registered for and been assigned a DuckTix paperless ticket. The DuckTix paperless
ticketing system makes it very difficult for students to cheat the system, since inactive cards and non-ticketed cards will not allow fans with fraudulent IDs or tickets to enter the stadium. Of course, a ticketing person is on duty at the stadium to make sure the ID belongs to the student (i.e. the student’s face matches the picture on the student ID).

Now that students are required to register for football tickets electronically and their "Admit One" status is verified at the stadium gates, students are much less likely to scalp their tickets to other students or community members. Because entrance to the stadium requires the fan to have a valid ID card, registered with a paperless ticket, students are unable to transfer their Admit One status to any other student without going through the online DuckTix Trading Post. Through the DuckTix Trading Post, students can only trade tickets, and not sell them.

After using the DuckTix system for one football season, Kate had demonstrated to the Athletic Department that she could significantly cut down, and almost eliminate all ticket scalping and fraud. Since the Athletic Department could no longer make a case for limiting the number of available student tickets, Kate was able to acquire all 6,000 of the student seats for the following football season.

Aaron registers for a football ticket

Aaron woke up at 7:50 AM on a Monday morning. Even though he does not have class until 11:00 AM, Aaron’s early rise is due to the online registration for football tickets that begins at 8:00am. The opponent of the upcoming match — Stanford! Normally Aaron would wake up at 5:30 AM to go wait in line for his tickets at the ticketing office, but because of the new ticketing scheme, Aaron is still at home in his pajamas at 7:50 AM.

It is now about 7:58am. Aaron opens the browser on his computer. His home page is set to DuckWeb so all he has to do is enter his user ID and PAC number. He enters his information and clicks the “login” button. A page appears on his browser with a few options to choose from. He navigates his way to the ticket registration page. First he selects “Student Menu” from the first page he sees. Then from the next page he selects “DuckTix”. Once he’s at the ticket registration page he fills out the required information and clicks “Submit”. Because Aaron is one of the first few registrants to the game against Stanford, Aaron received confirmation of a seat to the game almost instantaneously. He is relieved that it only took him about 5 to 7 minutes to register himself a ticket, instead of waiting in line outside of the EMU in the cold like last year.

Priority Lottery System:

John tries to get a football ticket

John, a senior at the University of Oregon, has decided that it would be a nice break from his typically dull weekend routine and to go to a football game. This will be his first time joining in on the excitement of his University’s football team.

When John has a few minutes of free time on Wednesday he sits down in front of the DuckTix system. He gives his student ID number to the system, and it quickly greets him with a list of available football games that he can register for. He selects the upcoming Stanford game that will be played 2 weeks from this Friday. John confirms his selection, and he has been pre-registered.
On the following day, Thursday, a lottery is held. Out of all the people who have registered for the Stanford game, 6150 are chosen to get football tickets, and notifications are sent to all those who have registered.

The next day, Friday, John receives a message, notifying him that he has been allotted a ticket. Little does John know, that while the lottery was mostly random, he did have an edge over other students who have already been to a game, those who have less completed credits, and those who did not attend a game that they had a ticket for.

John trades his ticket for another game

John has a ticket for the Stanford game in two weeks time. He meets his friend Jane, who has a ticket for the game this Saturday against USC. Now he wants to go to the USC game with Jane instead of to the Stanford game alone. Jane reminds John that he can just go to the DuckTix system and trade his Stanford ticket for a USC ticket.

John logs into the DuckTix system. The system lets him know that he currently has one ticket for the Stanford game, and gives him the option to trade his ticket. He goes to the DuckTix Trading Post, where he sees a number of people posting their USC tickets for trade. He easily selects a student, Bob, with whom to trade his ticket with. The system confirms the trade and emails both parties of the successful transaction. Now John looks forward to going to the USC game with his friend Jane.

Jane petitions for more student tickets

This year Jane decides to petition the committee armed with the additional data provided to her by the DuckTix system. Jane fires up DuckTix and logs on as an administrator. In response to her queries the system informs her that all student tickets were distributed for each game as she had anticipated. The system also informs her that the average attendance for each game was considerably higher than it has been in the past years. Excited by this data, and wondering why it might be the case, Jane decides to make additional queries to the DuckTix system.

With DuckTix, Jane is able to discover that after ticket distribution for each game there occurred a consistent flurry of activity on the DuckTix Trading Post. Jane notices that after ticket distribution for each game a good number of students were successfully able to trade for tickets that they had requested but not received. She further notices that prior to each game a small but substantial number of tickets had been reassigned, as students who had tickets but could not attend the game placed them up for grabs on the DuckTix Trading Post. Jane is also quickly able to determine the exact number of ticket request for each game as opposed to the number of tickets that had been made available by the Athletic Department. Finally, Jane queries DuckTix for user feedback. From the long list of comments she selects a small number that appear well written and that seem to make a good case for increasing the number of available student tickets.

Armed with the information provided to her by the DuckTix system Jane makes her case to the Athletic department. The committee seems impressed by the additional information that Jane is able to provide this year, and sees fit to allocate a small increase in student tickets for next football season.
## Claims Analysis

Table 3 presents the claims analysis for the First-come-first-serve System, while Table 4 shows the claims analysis for the Priority Lottery System.

### Table 3. Claims analyzing the key features of the First-come-first-serve System.

<table>
<thead>
<tr>
<th>Proposed Activity Design Features</th>
<th>Hypothesized Pros (+) or Cons (−) of the Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Registration</td>
<td>+ Equitable and convenient for most students.</td>
</tr>
<tr>
<td></td>
<td>+ Eliminates long waiting lines at ticketing office.</td>
</tr>
<tr>
<td></td>
<td>− Unfair to those with limited computer access.</td>
</tr>
<tr>
<td></td>
<td>− Could possibly cause over loaded server traffic</td>
</tr>
<tr>
<td>Paperless Ticket</td>
<td>+ Lower fraud and scalping rates.</td>
</tr>
<tr>
<td></td>
<td>− Hardware overhead for card reader.</td>
</tr>
<tr>
<td>Online Trading</td>
<td>+ Larger access pool to available tickets.</td>
</tr>
<tr>
<td></td>
<td>+ Improves the attendance at games by.</td>
</tr>
<tr>
<td></td>
<td>− Not as simple as just being able to give the ticket to a friend.</td>
</tr>
<tr>
<td>Tracking System</td>
<td>+ Allows administration to keep track of attendance, enable SAFC Chair to ask for more tickets with supportive data gathered from the tracking system.</td>
</tr>
<tr>
<td></td>
<td>− Doesn’t actually improve on a solution. There may be privacy issues.</td>
</tr>
</tbody>
</table>

### Table 4. Claims analyzing the key features of the Priority Lottery System.

<table>
<thead>
<tr>
<th>Proposed Activity Design Features</th>
<th>Hypothesized Pros (+) or Cons (−) of the Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Registration</td>
<td>(Same as Table 3)</td>
</tr>
<tr>
<td>Paperless Ticket</td>
<td>(Same as Table 3)</td>
</tr>
<tr>
<td>Online Trading</td>
<td>(Same as Table 3)</td>
</tr>
<tr>
<td>Tracking System</td>
<td>+ Allows for priority ranking based on gathered data from “tickets”.</td>
</tr>
<tr>
<td></td>
<td>− More overhead and work for administration.</td>
</tr>
<tr>
<td>Priority Ranking</td>
<td>+ Allow for even, or fairer distribution.</td>
</tr>
<tr>
<td></td>
<td>− The difficulty is in defining “fair”.</td>
</tr>
<tr>
<td>Number of games</td>
<td>+ Allows for people who always miss out to actually go to a game.</td>
</tr>
<tr>
<td></td>
<td>− Punishes the Die-Hard fans.</td>
</tr>
<tr>
<td>Seniority</td>
<td>+ Seniors who have never had the chance to go could out rank a Freshman who has many more years of free tickets ahead of them.</td>
</tr>
<tr>
<td></td>
<td>− Punishes the freshman, even is they are a die-hard fan.</td>
</tr>
<tr>
<td>Register but no show</td>
<td>+ Improves the attendance at games day.</td>
</tr>
<tr>
<td></td>
<td>− Does not account for unavoidable situations that cause one to miss a game.</td>
</tr>
</tbody>
</table>
Information Design

Overview:
The following sections describe the information designs for *DuckTix*. For the actual hand-drawn interfaces, please see attached documents.

Kate develops new system
Kate hires a team of programmers to design and build a software system that will help make her job less frustrating, stressful, and all the information she needs easier to track, catalogue, and reference.

The new system has the convenience of paperless tickets. Kate found that the most common form of ticket fraud occurred when students would use tickets from past games. Although the old tickets have a different date printed on them, the people checking the tickets have too many people to deal with to look closely. Rather than receiving a paper ticket, the new system activates the “Admit One” flag on the ticket holder’s student ID card. With this new system, each game is coded on the ID card differently and the card must belong to a current student in order to work. In this way, the system cuts down both the fraud due to the use of old tickets, and prohibits ex-students trying to use their old ID’s from entering the game.

In order to eliminate ticket scalping altogether, Kate decides to approve the paperless system. With this system, students are unable to sell their ticket to anyone else. In fact, under the new system, the scalper would have to sell his or her student ID card in order to sell the ticket.

Aaron obtains a ticket for the next Oregon home game.
Aaron needs to know the URL for *DuckWeb*. He knows he can get there from the University’s homepage. Because he is so hardcore he sets it as his default homepage. Aaron also needs to have his student ID and PAC number available so he can logon to *DuckWeb*. Figure 4a shows a hand-drawn mockup of the student login screen.

Once at the registration page he will be asked to confirm that the email address they have listed for him is correct. He will then be presented with a list of the current games that tickets are available for (see Figure 4b). He will select the game he is registering for and then click “Submit”.

(a) Student Login screen
(b) Option Selection.

Figure 4. Hand-drawn interfaces for student registration.
The system will notify him that the registration will be processed and that he will receive a confirmation email at the end of the week. Aaron now knows he must frequently check his email account throughout the week.

When the confirmation email is received and read by Aaron, he must first read it to see if he gets a ticket or not.

**John tries to get a football ticket.**

John sees an input field labeled “student ID.”

John enters his student ID number, which causes a new screen to appear. He sees a “trade” item, and a “logout” item. He also sees a list of all the UO football games for this season. This includes games played, games that have yet to be played, and games he can register for, and how many students have registered for each game (see Figure 5).

After selecting a game that can be registered for, John sees a small confirmation window that asks him if he wants to register for the game he selected. He can select “no” or “yes.”

Once John selects “yes,” he selects “logout” and he is finished for now. In a few days John receives a notification of whether or not he has gotten a ticket.

**John’s friend has a different ticket.**

John sees an input field labeled “student ID.”

John enters his student ID number, which causes a new screen to appear. He sees a list of all the UO football games for this season, a “trade” item, and a “logout” item (Figure 6a).

After selecting the “trade” item, John is presented with a list of available games for which there are tickets up for trade or for which he can trade his ticket (Figure 6b).

John selects the USC game, and he is now presented with a list of students who want to trade tickets and what games they want to trade for.

John selects a student, Bob, who wants to trade for the Stanford game and a new screen appears that allows him to send a message to Bob.
Once Bob receives the message, John and Bob can exchange their tickets at a time that is convenient for both of them.

**Jane petitions for more student tickets**

Jane sees an input field labeled “Administrator login”

Jane enters her user name and password and is greeted by the *DickTix* administrator page.

Jane selects “Statistics” and is taken to a view containing information about distributed tickets, requested tickets, actual attendance, and number of tickets traded after distribution for each game (see Figure 7a).

Jane prints the statistics page and returns to the administrator login view.

From the administrator login view Jane selects “Student feedback” and is taken to a view containing comments posted by student users of the *DuckTix* System (Figure 7b). Jane selects several pertinent comments and copies their text to her word processor.

Jane prints her selected user comments.

Jane selects “log out” and shuts down the *DuckTix* system.

(a) *DuckTix* game statistics screen. (b) Student feedback screen.

Figure 7. Hand-drawn mockups of the administrator screens.
Interaction Design

Overview
As discussed in the Activity Design section, the First-come-first-serve System and the Priority Lottery System are very similar in their activities. The key difference lies in the sequence of events that take place by the students. The following shows the interaction between DuckTix and its primary users — the students and the administrators.

Interaction Storyboards

John sets up his ticket for trade
Figure 8 shows the storyboard interaction of a student, John, with DuckTix. John logs into DuckTix and goes to the Trading Post. He searches for available tickets, but doesn't find what he wants. He posts his ticket for trade and sets up which game he would like to trade his ticket for.

John registers for a game
Figure 9 shows the storyboard interaction of John logging into DuckTix, and selects the "Register" option. He views a list of available games to register for. He selects a game, and confirms his selection. After he confirms the selection, he logs out.

Jenny gets DuckTix statistics and feedback.
Figure 10 shows Jenny logging in as an administrator. She selects the "view statistics" option. She is then presented with a list of games. She selects the game she is interested in, and views the statistics for that game. Satisfied, she returns to the administrator menu, and selects the "view feedback" option, and reads the feedback.

Jenny adds and edits a game event
Figure 11 shows Jenny logging in as an administrator. She selects "edit schedule", and from a list of available games, she selects the game she wants to edit. She modifies the information and confirms the update. She is then returned back to the game event list. She adds an entirely new game to the system.
Figure 8. Student using *DuckTix* to trade football tickets.
Figure 9. Student registering for a football game.
Figure 10. Administrator viewing DuckTix statistics and feedback.
Figure 11. Administrator editing the football game event.
Formative Evaluation Study

Evaluation Study Methodology

The evaluation study was conducted at the EMU. Students were chosen at random, and most were willing to participate in our evaluation. A total of four students were involved in our study. Each student was tested on both of our system designs. Since each system consisted of a student and an administrator interfaces, each student was tested on a total of four instructional tasks (2 student tasks and 2 administrator tasks).

During the study, two people took notes, one person instructed the user, one person controlled the prototype, and one person was taking photos. For each student participant, our group members rotated through the roles, so that every group member would have a chance to take part in the different roles. Table 5 summarizes the roles and responsibilities of the group members during the evaluation study.

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Instructor</td>
<td>Assigns tasks to the user, intervenes only when necessary</td>
</tr>
<tr>
<td>Note Taker</td>
<td>Takes notes of the user’s interaction with system</td>
</tr>
<tr>
<td>Photographer</td>
<td>Documents the process with photographs</td>
</tr>
<tr>
<td>Prototype Controller</td>
<td>Controls the paper prototype</td>
</tr>
</tbody>
</table>

When we approached the students at the EMU, we introduced ourselves as Computer Science students conducting a study about student football tickets. We then politely asked if they could spare some time with us (most of the students we approached obliged us). We then asked the students to tell us about themselves, so we could determine if they are a die-hard fan or a fair-weather fan.

Then the task instructor took over. The task instructor briefly explained the very basic overview of the problem this project aims to solve, and then a brief description of the system (see Figure 12). We told the students that we would provide them with a set of tasks that they had to complete with only the current hand-drawn prototype displayed to them. We told the students that we would not provide any help unless they were completely confused. We also encouraged the students to verbalize their thoughts. This way, we could better understand what they were thinking.
Once the test started, the task instructor reads the task instructions (Appendix B) to the students, with as little interventions as possible. This is so that we could observe the users trying to solve the task for themselves. In case the students got stuck, the students were instructed to take their best guess, before the task instructor assisted. In this way we able to observe any difficulties and ambiguities the system imposes.

While the task instructor read the tasks to the student, the prototype controller slides through the hand-drawn prototypes based on what the student points at (students were told that pointing their finger at the mock-ups constitutes as a mouse click). Meanwhile, the note takers documented the students’ reactions, comments, and suggestions (see Figure 13), while the photographers photographed the process.

After the series of tests, we explained to the students what the purpose of our test was. We encouraged them to ask any questions they might have and answered them. After explaining the purpose of our studies, the students were quick to make their suggestions to the system. One such suggestion was to have more meaningful symbols instead of one-word icons.

**Evaluation Study Participants**

**Cara A.**
Cara is a sophomore, and her major is History (see Figure 14a). She has not gone to any UO football games yet. When asked why she has not gone to a single game, she replied that she is “turned off” by the long lines. She does not think it is sensible to wait in line for hours just to go to a football game. She is considered a fair-weather fan.
Clintin D.
Clintin will be graduating in Spring 2003 with a Psychology degree (see Figure 14b). The last time he was at a football game was when he was a freshman 3 years ago. Being a senior, he would want to go to at least one game this season; especially now with the newly remodeled stadium. He considers himself a fair-weather fan.

Alyson H.
Alyson is majoring in Journalism and is in the junior standing (see Figure 14c). She is a diehard Duck football fan. She just started working at the EMU recreational center. Prior to working at the recreational center, she had been to almost every football game. However, since she got the job, she had missed a couple of games, as she was unable to get tickets. However, she had commented that she will definitely go to the game against Washington in November.

Lindsay G.
Lindsay is a junior and majors in Business Administration (see Figure 14d). Her concentration is in Sports Marketing. She has followed UO’s football team very closely, and had gone to almost every game. She humored us by saying that “going to football games is a requirement for my concentration.” But she admitted that she really enjoys watching the sport, and the adrenaline she gets from being at the game is beyond description. She told us that once, she had to stand in line for 3 hours just to get a ticket; but told us that it was worth it.
Formative Evaluation Report

This report is categorized based on the participants from the prototype testing done previously. The four participants are Cara A., Alyson H., Clintin D., and Lindsay G. The reports are also subdivided by the system designs as well as their function.

Cara A.

First-come-First-Serve System

As a student fan
From a student's perspective, Cara was able to search for tickets, register for tickets, and trade for tickets with no hassle. Her only concern was with the navigation. She wanted a more simple way to switch between menus besides the "up" arrow. Perhaps a frame-like appearance or tabbed display would more clearly convey the layout of the system to the user.

As an administrator
Cara had no problems navigating through the Administrator's interface for the First-come-first-serve System (see Figure 15). She commented that the display was very easy to understand, although in order to complete certain tasks she had to make assumption about where particular links would take her. For example, after editing the time of a game, she wasn't sure if all the students would receive confirmation emails informing them of the time change. This functionality will have to be added. Besides that, Cara encountered no problems with the interface.

Priority Lottery System

As a student fan
Cara didn't have any problems completing the student tasks for the Priority Lottery System, although she did try to log out from the TixTrade page and found that there was no logout button. Navigational buttons need to be complete on every page of the interface. She commented that the interface looked much like the DuckWeb interface which she was used to. Cara said that made it easy to quickly move through the tasks without any prompting from the prototype testers.

As an administrator
The administrator interface for the Priority Lottery System was simple enough not to confuse Cara as she was navigating through her tasks, but some of the links were not exactly clear as to where they would lead her. She found this true of the First-come-first-serve system as well. She also commented that, again, the confirmation notices were not explicit enough. There should
perhaps be a greater variety of message responses rather than generic "error" and "confirmation" boxes.

Alyson H.

First-come-First-Serve System

As a student fan

Navigation seemed not to be a problem here for Alyson until task 3. Here she is required to go back to the main menu to make a selection. We forgot to put the back arrow at the top of the page even though we had the intention to put it there.

As an administrator

Alyson had no problems accomplishing the tasks presented to her. After the task was presented to her, she did have to stop and think before she acted. However, she was not sure where the back arrow was at first because it was small and not drawn clearly. She also commented on how she thought the feedback forum was a good idea.

Priority Lottery System

As a student fan

Not surprisingly this simulation was the easiest for Alyson, mainly because she was getting familiar with our prototype design (Figure 16). There was a problem at the end though. When it came time to logout of the system, she was unable to because the log out button was not on the page she was at. We had discussed about having a logout button on every page, but had forgotten to put one on that page.

As an administrator

This simulation went very smoothly. She mentioned she had an easier time with this one because she had been through the previous three and was more familiar with what to do. Alyson also mentioned she liked the football helmet icon idea.

Clintin D.

Priority Lottery System

As a student

Clinton was able to perform all 7 student tasks with little to no extra instruction from the designer. He mentioned that navigation seemed familiar, and that knowing the purpose of the
system it seemed relatively easy for him to accomplish his tasks. At one point he became stuck in the interface due to the lack of appropriate navigation tools ("home" "back") that had been left out on one of the pages.

As an administrator

Clinton was able to perform all 5 administrator tasks with one exception (Figure 17). When asked to notify students of a change in game schedule he was unable to figure out how to do so. I informed him that notification of ticket holders took place automatically and that updating game information would take care of this task. Generally this was unclear. Also had a few problems with navigation tool consistency in Task 2.

First-come-First-Serve System

As a student

Clinton was able to log into the student system without difficulty. In Task 2 he had difficulty recognizing that football helmets as representations for available games. He mentioned that he liked the helmet idea, but that our helmets didn't look much like helmets. All other tasks went smoothly. It is important to note that the helmet problem would have been an issue with any of the other tasks, but once he had become familiar with the design in Task 2, the helmet as icon issue was no longer a problem.

As an administrator

Clinton was able to perform all of the administrator tasks without difficulty. However, he pointed out that there was no way to explicitly notify users of an event. When asked if this feature should be added he said that it would probably be too much of a hassle for the administrators, and that the system should take care of it automatically.

Lindsay G.

Priority Lottery System

As a student

Lindsay performed most tasks with ease. She seemed to like how everything was clearly labeled and there was not too much information on the screen at one time. However, some tasks were confusing because either the task wasn’t explained very well, or the options on the user interface were not descriptive enough. She had slight difficulties with trading her ticket. Two of the tasks were a little redundant, and she was unclear on how to simply trade her ticket; the user interface choices for trading confused her.
As an administrator

Lindsay was able to use the administrator program with more ease. The options were simpler and her choices more limited, thus allowing for less confusion. Her only difficulty was when she was editing a game schedule. She was a little confused as to the point of this functionality, which made things a little difficult. Also, once at the editing screen, she stopped because she was not sure how to interact with the screen; this seemed to be a problem with the paper-based prototype and not necessarily the system design.

First-come-first-serve System

As a student

Lindsay was now more comfortable interacting with the paper-based prototype (Figure 18), and seemed to have a handle on how things work. She got through most tasks with ease, however the user interface was confusing at first because of the football helmet shaped buttons. The trading ticket tasks were still a little unclear. However, the trading instructions were restated and she was then able to navigate easily through the system. The only other problem was the lack of “back” buttons on the prototype to help her to go back to a previous screen.

As an administrator

This system was very similar to the administrator prototype of the Priority Lottery System. Lindsay had learned the style of our prototypes and was able to perform the tasks very quickly. This seems to suggest that there is a slight learning curve for both systems. Also, the simplicity of the administrator system makes it easier to use than the student system. The only problem Lindsay had was with the editing task, similar to her problem with the lottery administrator system.
Overall, the Formative Evaluation Study was a success. From this field study, we had first-hand experience to the users’ likes and dislikes. While most of the comments were aesthetic suggestions, we did not dismiss it as such. Instead, we concluded that some of the designs were confusing, while some were helpful. For example, Clintin pointed out that the helmet icons were confusing, as he did not know that they represented available games (see Figure 19).

Most of the participants commented that the links and words should be clearer and more meaningful, instead of having the user guess their meanings. From the experiments, we noticed that important navigation items, such as “Logout” and “Get Tickets”, are missing from some pages, while some of them are just unclear. Also, Cara mentioned that there was a lack of consistency in both our designs.

The participants made some suggestions for our project, such as a “Help” button if the students are unsure how to register for a game. Other suggestions include that an administrator confirmation dialog be shown before sending mass email to ticket holders.

Lastly, we noticed that there was a slight learning curve for both systems, but within two tries, all the participants quickly got accustomed to the designs, and the tasks were performed smoothly. From this study, we concluded that consistency and clearer instructions are important, and we will consider incorporating some of the suggestions and comments made by these four participants.
Design Decisions

Focus Activities

The final design will be the Priority-Lottery System consisting of two distinct sub-systems. There will be a student DuckTix and an administrator DuckTix. Both systems will be closely related, and will share data. However, the two systems each will have their own set of activities as follows.

Student Activities

- Students can log into DuckTix, which verifies students' eligibility to register for a game.
- Eligible students can select from numerous upcoming games to register for.
- Students can exchange tickets for a different game through DuckTix.
- Students can also relinquish their tickets to other students through the system.
- Students should have an ability to increase their probability of getting a ticket (priority booster).
- Students should receive confirmation on allotted tickets.
- Students should be able to see when the lottery will take place.
- Students will receive a notification on whether they got a ticket or not.
- Students can send feedback to administrators.
- Lastly, they can log out of the system.

Administrator Activities

- Administrators can log into DuckTix.
- Administrators can create a game for the football game schedule.
- Administrators can edit a game.
- Administrators can remove a game.
- Send notifications to students who are registered for a game through DuckTix.
- They can also get statistical information from DuckTix on student registration numbers and attendance.
- Administrators can also read the feedback from students through the system.
- Lastly, administrators can log out DuckTix.

Final Design

The final design that was agreed upon unanimously by this group was the Priority Lottery System. This system will allow us to solve the football student-ticketing problem in a completely different way. The First-Come-First-Serve System, on the other hand, uses the same methodology as the current system, but moves the waiting line from the EMU ticketing window, to the EMU computing lab.
The Priority Lottery System will allow students to register over a period of time. Tickets will be given to students based on a weighted-priority schema. The key advantage of this system is that it gives dedicated students who do not have time to wait in line a chance to go to the games. Students can register for a game at their leisure, and then be notified if they win a ticket. The lottery aspect itself should invoke a sense of excitement for students. For instance, the system will provide up to date statistics on the lottery, such as a lottery countdown timer, and how many students are in the lottery; and when a student gets a ticket, they will feel like they have won something.

In addition, the system will also incorporate a trading system to ensure that as many tickets get used as possible. Many students with tickets often change their minds or wish to switch games. The DuckTix Trading Post will give students a forum to trade their tickets for a different ticket or to just relinquish their tickets.

Administrators will also benefit from this system design. They will be able to easily create a game schedule, edit game times, and then monitor the system. Administrators will be able to quickly retrieve information, such as the exact number of how many students want to attend a game, and how many students were unable to get tickets. This information will aid the administrators in getting additional ticket allocations for the next season.

Lastly, the design will include a new way for the students to interact with the administrators. The students will be able to leave feedback to the administrators, so that the administrators can determine the effectiveness and the usefulness of the system.
Work Distribution

Task Responsibilities And Work Schedule

Our group worked mostly as a team, distributing our work evenly. The group met almost every day at Deschutes 100, with each meeting lasting at least 3 hours. During the meetings, problems were discussed and questions were resolved. Tasks are then distributed evenly amongst the group members. Once the tasks and write-ups are completed, one person compiles these write-ups into one report, which is proofread by all members. While most of the write-ups are done individually, everyone partook in the design decisions during the meeting. Table 6 shows the task responsibilities of the group members and Table 7 shows the task and meeting schedules for the project.

Table 6. Summary of task responsibilities.

<table>
<thead>
<tr>
<th>Group Member</th>
<th>Responsibilities</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megan Chinburg</td>
<td>• Student Questionnaire Design</td>
<td>• Activity Scenario</td>
</tr>
<tr>
<td></td>
<td>• Student Interviews</td>
<td>• User Task Design</td>
</tr>
<tr>
<td></td>
<td>• Parent Interview</td>
<td>• Information Design</td>
</tr>
<tr>
<td></td>
<td>• Problem Scenario</td>
<td>• Claims Analysis</td>
</tr>
<tr>
<td></td>
<td>• Prototype Design</td>
<td>• Formative Evaluation Report</td>
</tr>
<tr>
<td>Harrison Green-Fishback</td>
<td>• Parent Questionnaire Design</td>
<td>• Activity Scenario</td>
</tr>
<tr>
<td></td>
<td>• Student Interviews</td>
<td>• Prototype Design</td>
</tr>
<tr>
<td></td>
<td>• Parent Interview</td>
<td>• Information Design</td>
</tr>
<tr>
<td></td>
<td>• Problem Scenario</td>
<td>• Formative Evaluation Report</td>
</tr>
<tr>
<td>George May</td>
<td>• Student Questionnaire Design</td>
<td>• Administrator Task Design</td>
</tr>
<tr>
<td></td>
<td>• Student Interviews</td>
<td>• Activity Scenario</td>
</tr>
<tr>
<td></td>
<td>• Parent Interview</td>
<td>• Information Design and Prototype</td>
</tr>
<tr>
<td></td>
<td>• Problem Scenario</td>
<td>• Formative Evaluation Report</td>
</tr>
<tr>
<td>Jason Prideaux</td>
<td>• Administrator Questionnaire Design</td>
<td>• Problem Scenario</td>
</tr>
<tr>
<td></td>
<td>• Administrator Interview</td>
<td>• Activity Scenario</td>
</tr>
<tr>
<td></td>
<td>• Student Interviews</td>
<td>• Information Design</td>
</tr>
<tr>
<td></td>
<td>• Parent Interview</td>
<td>• Interaction Storyboards</td>
</tr>
<tr>
<td></td>
<td>• Problem Scenario</td>
<td>• Formative Evaluation Report</td>
</tr>
<tr>
<td>Christian Tan</td>
<td>• Administrator Questionnaire Design</td>
<td>• Coordinating Tasks</td>
</tr>
<tr>
<td></td>
<td>• Administrator Interview</td>
<td>• Real-World Metaphors</td>
</tr>
<tr>
<td></td>
<td>• Student Interviews</td>
<td>• Stakeholder Profiles</td>
</tr>
<tr>
<td></td>
<td>• Root Concept</td>
<td>• Integrating Group Work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Formative Evaluation Report</td>
</tr>
</tbody>
</table>
Table 7. Meeting and Task Schedule.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Assigned to &amp; completed by</th>
<th>Date Assigned</th>
<th>Scheduled Completion</th>
<th>Actual Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting: Brainstorm project ideas.</td>
<td>All</td>
<td>10/20/02</td>
<td>10/21/02</td>
<td>10/21/02</td>
</tr>
<tr>
<td>Meeting: Unanimously decide on <em>DuckTix</em> project, discuss ideas for system.</td>
<td>All</td>
<td>10/21/02</td>
<td>10/22/02</td>
<td>10/22/02</td>
</tr>
<tr>
<td>Meeting: Discuss questionnaires designs and plan out project tasks</td>
<td>All</td>
<td>10/22/02</td>
<td>10/22/02</td>
<td>10/22/02</td>
</tr>
<tr>
<td>Design Administrator Questionnaire</td>
<td>Jason, Christian</td>
<td>10/22/02</td>
<td>10/23/02</td>
<td>10/23/02</td>
</tr>
<tr>
<td>Design Student Questionnaire</td>
<td>Megan, George</td>
<td>10/22/02</td>
<td>10/23/02</td>
<td>10/23/02</td>
</tr>
<tr>
<td>Design Parent Questionnaire</td>
<td>Harrison</td>
<td>10/22/02</td>
<td>10/23/02</td>
<td>10/23/02</td>
</tr>
<tr>
<td>Meeting: Collect questionnaires, divide tasks amongst group members</td>
<td>All</td>
<td>10/23/02</td>
<td>10/23/02</td>
<td>10/23/02</td>
</tr>
<tr>
<td>Meeting: Collect work done so far, discuss project, share ideas help, answer questions, assign remaining tasks</td>
<td>All</td>
<td>10/25/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Do write-up on problem scenarios, activities scenarios, information design, claims analysis</td>
<td>Megan</td>
<td>10/25/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Do write-up on problem scenarios, information design</td>
<td>George</td>
<td>10/25/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Do write-up on problem scenarios, information design</td>
<td>Harrison</td>
<td>10/25/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Do write-up on problem scenarios, activities scenarios, information design</td>
<td>Jason</td>
<td>10/25/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Do write-up on root concept, problem statement, proposed solution, stakeholder profiles, real-world metaphors</td>
<td>Christian</td>
<td>10/25/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Meeting: Collect work done, make revisions, make final adjustments</td>
<td>All</td>
<td>10/27/02</td>
<td>10/27/02</td>
<td>10/27/02</td>
</tr>
<tr>
<td>Make final adjustments on document.</td>
<td>All</td>
<td>10/27/02</td>
<td>10/28/02</td>
<td>10/28/02</td>
</tr>
<tr>
<td>Meeting: Plan out and divide up remaining tasks</td>
<td>All</td>
<td>10/28/02</td>
<td>10/28/02</td>
<td>10/28/02</td>
</tr>
<tr>
<td>Formulate Administrator Tasks for Formative Evaluation</td>
<td>George</td>
<td>10/28/02</td>
<td>10/29/02</td>
<td>10/28/02</td>
</tr>
<tr>
<td>Formulate Student Tasks for Formative Evaluation</td>
<td>Megan</td>
<td>10/28/02</td>
<td>10/29/02</td>
<td>10/28/02</td>
</tr>
<tr>
<td>Organize document</td>
<td>Christian</td>
<td>10/28/02</td>
<td>10/29/02</td>
<td>10/29/02</td>
</tr>
<tr>
<td>Prepare class presentation</td>
<td>Harrison, Jason</td>
<td>10/28/02</td>
<td>10/29/02</td>
<td>10/29/02</td>
</tr>
<tr>
<td>Meeting: Plan evaluation reports, Identify activities for the project, discuss design build plan</td>
<td>All</td>
<td>10/29/02</td>
<td>10/30/02</td>
<td>10/30/02</td>
</tr>
<tr>
<td>Conduct Formative Evaluation Study at EMU</td>
<td>All</td>
<td>10/29/02</td>
<td>10/30/02</td>
<td>10/30/02</td>
</tr>
<tr>
<td>Do write-up of Formative Evaluation Report</td>
<td>All</td>
<td>10/29/02</td>
<td>10/30/02</td>
<td>10/30/02</td>
</tr>
<tr>
<td>Meeting: Discuss Formative Evaluation Report and about final document</td>
<td>All</td>
<td>10/30/02</td>
<td>10/30/02</td>
<td>10/30/02</td>
</tr>
<tr>
<td>Finalize document</td>
<td>All</td>
<td>10/30/02</td>
<td>10/30/02</td>
<td>10/30/02</td>
</tr>
</tbody>
</table>
Appendix A

Questionnaire for Students

1. Do you like to go to UO football games?
2. Do you always get a ticket when you want to go?
3. If you don’t get tickets:
   a. Is having to stand in line what keeps you from getting them?
   b. Would you get tickets if there were an easier, less time-consuming way?
4. Do you skip class to wait in line?
5. Do you lose sleep to wait in line?
6. Do you find it unfair that you pay incidental fees but don’t get a ticket?
7. Would you like to be able to reserve a ticket for yourself on-line?
8. Would you like to be able to schedule a convenient time to pick up your ticket?
9. Would you like to be able to trade available tickets with other students?

Questionnaire for Administrators

1. How does student-ticketing work? How is it distributed?
2. What is the number one complaint students have when obtaining student football tickets?
3. What are some of the other problems faced by these students?
4. Do you have any challenges in distributing student tickets?
5. How do feel about students skipping classes and standing in line at 3 AM in order to get tickets?
6. Do you think it is fair that some students cannot get tickets?
7. What do think of a system where tickets are fairly distributed amongst students?
8. What criteria do you think is considered “fair” when distributing these tickets?
9. If you have all the resources available to you, what system do you envision?
Questionnaire for Parents

1. On a scale from 1 – 10, ten being the highest, please rate yourself as a U of O Football Fan.

2. Are you a University of Oregon Alumni?

3. How many of your children are, have been, or will be students at the University of Oregon?

4. In your opinion, on a scale from 1 – 10, how do each of your children who are students at the University of Oregon rate as Duck fans?

5. For each of your children who are U of O students, please estimate the percentage of the cost of their university education that you have incurred.

6. To the best of your knowledge, have any of your children ever missed class in order to obtain tickets for a U of O football game? If so, do you feel that this was an appropriate choice?

7. Do you feel that the University provides incentive to miss class by distributing student tickets in the fashion that it currently does? If so, what suggestions for improvement could you make? If not, why not?
Appendix B

Formative Evaluation Study: Administrator

All tasks an Administrator may want perform on the system:

1. Log on / Log off
2. Create a game
3. Edit a game
4. Remove a game
5. Send notification to students who are granted registration for a game
6. Get statistical information
7. Read feedback

Task instructions for an Administrator using the DuckTix system:

Imagine you are a member of the ADFC (Athletic Department Finance Committee). You are in charge of the distribution of the student football tickets. There is an electronic ticketing system in place on campus that allows University of Oregon students to easily and efficiently obtain student football tickets, as well as exchange or to relinquish obtained tickets. The system also allows you, the administrator, to perform some tasks.

Here are a few:

**Task 1:** Log on to the DuckTix system.

**Task 2:** It has been quite a few weeks into the football season and your superiors are asking if, compared to last year, there has been a positive effect on the number of tickets obtained by students and the actual number of students who attended the games.

**Task 3:** You have just received information from the Athletic department that the kickoff time for the next home game has been changed from 12:30pm to 5:30pm. You had better inform the students of this change.

**Task 4:** Check the feedback forum to find out the student’s opinions about the new ticketing system.

**Task 5:** Log off the DuckTix system.
Formative Evaluation Study: Student Fan

All tasks a student fan may want perform on the system:

1. Log on / Log off
2. Register for a game
3. Trade tickets
4. Relinquish tickets
5. Send feedback to DuckTix administrator.

Task instructions for an student using the DuckTix system:

Imagine you are a fan of UO Football games. You want to get football tickets, but must do so through an electronic ticketing system. This system allows University of Oregon students to easily and efficiently obtain student football tickets, as well as exchange or to relinquish obtained tickets. The system also allows you, the student, to perform some tasks.

Here are a few:

Task 1: Login to DuckTix with your Student ID number and your P.A.C. Number.

Task 2: You're not sure what game has available tickets. Look for the game you want to go to and determine if there are available tickets.

Task 3: Now that you've determined which game has tickets, request a ticket for the available game.

Task 4: The game you wanted to go to doesn't have any tickets up for general distribution, but you were able to get a ticket to next weekend's game. Try to find someone to trade tickets with who has a ticket to the game you want to attend and needs a ticket for the game you are currently registered for.

Task 5: There were no tickets available and you are not currently registered for any games. Try to find a ticket someone has put up for reclamation.

Task 6: You are so happy with the current system because you were able to get your ticket for the big game without standing in line AND you were able to class that you want to send a rave review to the site administrator. Please locate the feedback form and submit your praise.

Task 7: You have successfully registered for this weekend's game, received your ticket confirmation and are ready to exit the DuckTix system. Please log out.