

# User Testing: E-League

## **S** TUDY PROPOSAL

### OBJECTIVE

Obtain an understanding of:

- How easy it is to use the current interface to perform tasks
- How efficient it is to use the current interface to perform tasks
- Issues that may arise when using the current interface to perform tasks.
- Whether a user can actually complete the tasks the interface was designed to allow a user to perform, with the interface.

### DESCRIPTION OF SYSTEM BEING TESTED

The intended users of the system are those who enjoy sports and other group gaming activities. Typical users consist mostly of males between the ages of 18 to 50 years of age who enjoy an active lifestyle. The general function of the interface is to provide a means for intended users to communicate with each other and easily create games/tournaments/leagues/teams with other users. We expect the users to be able to create a profile of them that other users can view, create and organize a full game/tournament/league/team, and join a game/tournament/league/team.

### TASK ENVIRONMENT & MATERIALS

The testing will be performed in the first test subject's room and at a café for the second test subject. The environment for the test subject's room consists of a desk and a bed. The desk has a computer on top of it, a lamp, and a landline phone. The walkthrough will be performed on the desk. The café environment contains several tables populated by people drinking coffee, studying, conversing. The café has a patio and the windows are open. The sound level is high. The walkthrough will be performed at a table.

Several materials will be used to perform the test and record the results. Performing the test will involve the paper prototype and a laptop. Recording of results will be done via laptop, stopwatch, pencil, and paper.

## METHODOLOGY

Throughout the test, the test subject will be encouraged to talk aloud and explain their thought process. One person in the team will be the computer and manipulate the paper prototype according to the test subject's choices. The computer will provide help to the user as if it were a help system and will only provide help when prompted by the user. This means help will be provided for functions of the interface. One person will be the observer and record the test subject's comment. One person will be the interviewer and prompt the test subject to explain their decisions and ask questions along the way if the test subject becomes silent. The interviewer will also attempt to calm down the test subject if they get anxious.

Step 1. Introduce the test subjects to the paper prototype and the concept of test subject testing.

Step 2. Specify the rules for how they are supposed to perform the tasks.

1. Encouraged to think aloud, ask questions (though they may not be answered), explain struggles, and tell observer what they are looking at
2. Help is predetermined. The test subject may not receive help if they get stuck.
3. They can test subject other materials in their environment if need be.
4. Whatever the test subject believes they can do to perform the task, they should try it until they fail. For instance, if they think something is a button, they should press it.
5. For each task they will need to start at the main page.

Step 3. On the laptop, open the URL: <http://www.facebook.com>

Step 4: Ask the test subject to create a profile on Facebook, and record the time taken to create one. Record the test subject's comments on the other laptop.

Step 5: When the test subject gets stuck or completes the task, record the time and ask them to give their thoughts after completing the task. Encourage them to comment on ease of use. Record the test subject's comments on the laptop.

Step 6. Ask the test subject to create a profile, and, once again, encourage them to think aloud. Explain that a profile is needed for them to be part of E-League and that it enables them to create games/tournaments/leagues/teams and meet other players.

Step 7. Display to the test subject the main page.

Step 8. Allow the test subject to navigate through the pages to complete the task and record their thoughts. Record the test subject's comments on the laptop.

Step 9. When the test subject gets stuck or completes the task, record the time and ask them to give their thoughts after completing the task. Encourage them to comment on ease of use and to compare it to Facebook. Ask if they could recommend any improvements or how the process could be changed. Record the test subject's comments on the laptop.

Step 10. Ask the test subject to create a game by logging in with the profile they created from the previous step. Explain that the options for the game are of their choice and preference.

Step 11. Display to the test subject the main page.

Step 12. Allow the test subject to navigate through the pages to complete the task and record their thoughts. Record the test subject's comments on the laptop.

Step 13. When the test subject gets stuck or completes the task, record the time and ask them to give their thoughts after completing the task. Encourage them to comment on ease of use. Ask if they could recommend any improvements or how the process could be changed. Record the test subject's comments on the laptop.

Step 14. Ask the test subject, on a scale of 1 to 10, how easy they thought it was to complete the task. Record it.

Step 15. Ask the test subject to join a game. Explain that they will not get a list of games to join, but need to find the window that will allow them to join a game and understand the interface.

Step 16. Display to the test subject the main page.

Step 17. Allow the test subject to navigate through the pages to complete the task and record their thoughts. Record the test subject's comments on the laptop.

Step 18. If the subject finds a window that allows them to join a game (the filter games window). Ask them to explain how they would filter a list of games using the filter games window.

Step 19. If the subject is able to correctly explain how to manipulate the filters, take them to the game space window with modifications for a test subject that is not part of the game.

Step 20. Explain that they cannot join this game but can request to join it. Ask the subject how they would request to join this game from the window.

Step 21. Ask the test subject to join a game through the upcoming events list.

Step 22. When the test subject gets stuck or completes the task, record the time and ask them to give their thoughts after completing the task. Encourage them to comment on ease of use. Ask if

they could recommend any improvements or how the process could be changed. Record the test subject's comments on the laptop.

Step 23. Ask the test subject, on a scale of 1 to 10, how easy they thought it was to complete the task. Record it.

Step 24. Tell the test subject they have finished the tasks they were required to perform. Ask them to comment on their general thoughts about the interface and its ease of use. Ask if they could recommend any improvements or how the process could be changed. Record the test subject's comments on the laptop.

Step 25. Ask them, on a scale of 1 to 10, how easy it was to use the entire interface. Record it.

Step 26. Thank the subject for helping us and offer to treat them to breakfast/lunch/dinner.

## TASKS

The tasks our user testing will test are sorted from easy to hard. The user testing will address the test subject creates a profile, the test subjects creates and organizes a game, and the test subject joins a game. Testing these general tasks involves breaking them down into subtasks:

1. The test subject creates a profile
  - a. The test subject creates a profile on Facebook
  - b. The test subject creates a profile on E-League
2. The test subject creates and organizes a game on E-League
3. The test subjects joins a game on E-League
  - a. The test subject finds the join game window
  - b. The test subject understands how to use the filters in the join game window
  - c. The test subject finds how to request to join a game in the game space window
  - d. The test subject joins a game through the invited/upcoming games list

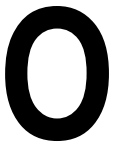
## TEST MEASURES

Ease of Use – The test subject will be asked to determine, on a scale of 1 to 10, for each task and for the interface in general how much effort it was for them to perform the task. Effort will be defined as the amount of mental stress and thought required. 1 is the interface took maximum effort and 10 is the interface took minimal effort.

Efficiency – The test subject performing the task will be timed as to how long it takes to complete the task. The time will provide a good measure as to how efficient our interface is compared to if the test subject was doing it without our interface or doing it with an existing interface. If the time is less or equal then our interface is efficient.

Identify Issues – The test subject will be queried and asked to think aloud. The observer will write down all comments and answers to questions.

Completion – Task one is complete when the test subject can log in and has entered all information they wish to enter. Task two is complete when the test subject can log in and has entered all information they wish to enter. Task three is complete when the test subject can view their game space and open windows and modify all aspects of their game. Task four is complete when the test subject finds the join game window from the main page. Task five is complete when the test subject can describe what each filter does. Task six is complete when the test subject finds the button that allows them to request to join a game in the game space window.



## OBSERVATION

### FIRST INTERVIEW

Test Subject: Kadhir Rajagopall

Team members: David (interviewer, greeter), Frank (observer, test administrator) and Edward (computer)

Kadhir Rajagopall is a high school teacher and a UC Berkeley graduate. He enjoys playing basketball with his students.

Starting time: Saturday, November 6, 2005, 11AM.

#### *Task 1 - Create a profile*

- Mr. Raja was asked to create an account on our paper prototype.
- First he clicked on the Sign Up button.
- He then filled in his email address and clicked Sign Up. These took 1 minute.
- It is then redirected to the Profile Space of User.
- Mr. Raja said that the Profile Space of User had too many things. He felt confused because he had no experience in using any web service. Mr. Raja spent 2 minutes to figure out what he

needed to do and what were the major functions. He commented that the boxes could be arranged based on steps. **[Observation 1.1]**

- He then clicked Edit Profile.
- He spent 2 minutes to fill in his personal information. In the Sport and Position fields he typed his favorites: basketball/guard. He commented that he did not know if it was better to enter guard or more specific, point guard. **[Observation 1.2 -> perhaps use drop down menu instead of text field]**
- Mr. Raja had problem understanding which of 1 and 5 is the maximum skill level. Was it a rating or ranking? He then just put 3, the choice of mediocre. **[Observation 1.3]**
- Mr. Raja thought that the interface should be improved. He rated the easiness 7 out of 10.
- Total time spent on creating a profile on E-league: 7 minutes

### *Task 2 – Create a game*

- Mr. Raja was asked to create a game on our paper prototype.
- He had a problem finding the way to create a game. He looked at the bottom of the Profile Space but could not find any button. Then he looked back to the top and found the Create E-League Event button. This took about 1 minute. **[Observation 1.4 -> some user prefers to have the button in the bottom part of the page]**
- On the page that Mr. Raja had to make a decision of creating a game, tournament or a league, he chose a Game without much thinking. He did not know what league and tournament were, but he did not care because he knew that he was going to create a game anyway. **[Observation 1.5 -> describe what a game/ league/ tournament is]**
- On the Create Game Space page, Mr. Raja entered the sport and time of the event, but he had misunderstood the purpose of the Name field. He entered his name instead of the name of the game. This took 30 seconds. **[Observation 1.6 -> change “name” to “game title”]**
- He then went on to input the venue information. It seemed easy for Mr. Raja to enter the address of his school and intuitively he clicked the Search button. He picked the sign on the map that pointed to his school. The whole process took 1 minute.
- He further confirmed that the game was not open to strangers.
- He then tried to invite players. It took 1 minute to look for his contact list of his students and found their email addresses. It would take 2 minutes for him to enter 6 email addresses. Invitations were

then sent to the students.

- Mr. Raja ignored Equipment because he thought he would bring the basketball.
- Mr. Raja thought that the whole process was quite confusing; he rated the easiness 5 out of 10.
- Total time spent on creating a game on E-league: 6 minutes

### *Task 3 – Joining a game*

- Mr. Raja was asked to join a game on our paper prototype.
- He was given the Profile Space page. Immediately he located the Join button at the top of the page. He clicked on it. He did not see other ways to join a game.
- He entered basketball as the sport he was interested to join. Then he added his own city and zip code. He did not have a preference for age, so he just made it 15 to 40, a big range.
- He said that he actually wanted to filter the skill level of the games because he was an amateur but not a professional. He would not know how good the players were in those games.

#### **[Observation 1.7]**

- The computer redirected him to a gamespace. It took 3 minutes for him to browse through the details of the game. He then clicked I Want to Join.
- Mr. Raja thought that task was quite easy, though some more functions, such as more filters, could be added. He rated the easiness 8 out of 10.
- Total time spent on joining a game on E-league: 5 minutes

## **C** HANGES TO PROPOSAL

Changes between the first and second interview include the following:

1. We found that simply asking the user to create a profile was not sufficient in getting a good understanding of creating a profile in our system. We added a subtask to task 1 to ask the user to create a profile on Facebook.com. We measured the time taken to perform this, allowing us to measure our system against a current system.
2. The user could not discover that it was possible to join a game through the Upcoming and Invited Games lists. We added an instruction to ask the user to do it as a subtask in the join a game task so that we could test its usability as well.

## **O**BSERVATION

## SECOND INTERVIEW

Name: Patrick Poon

Contact: [patrickest@berkeley.edu](mailto:patrickest@berkeley.edu)

Team members: Edward (interviewer, greeter), David (observer, test administrator) and Abhik (computer)

Patrick is 22 years old, and a third year MSE undergraduate student at UC Berkeley.

Starting time: Friday, November 4, 2005, 5AM

### *Task 1 - Create a profile*

- Patrick was asked to create an account with profile on Facebook.
- He used 1 minute to fill in his name, email and password on the Registration page.
- He waited 1 minute for the confirmation email.
- He confirmed and activated his account through the confirmation letter, and spent four minutes to fill in his profiles
- Total time spent on creating a profile on Facebook: 6 minutes
  
- Patrick was asked to create his profile on E-league.
- He spent about 5 seconds to skim the Main Page and locate the Sign Up button and clicked it. He felt it easy to find the way to sign up.
- It was redirected to the Sign Up Page. He thought the labels of text boxes were clear. He immediately filled in his email and password. After that, he clicked Sign Up. The total time spent on this step was about 1 minute. It was mostly spent on typing.
- He was redirected to Profile Space of User. He had no idea what to do and had to go over this page again and again. He was stuck on this page for 1 minute, looking for the Edit button to create his profile. He commented that this page was complicated to him as a first time user and he did not know what he should do initially. He said he had to guess what to do next. **[Observation 2.1 -> user should be guided to edit-profile directly]**
- He was forwarded to edit profile page. He thought the labels of first few fields (such as name, birth date) and private option were lucid. He only used 30 seconds to fill up those fields.



-When modifying preferred sports, he spent one minute on options of Position, Max, and Min. He was unclear with these options. He guessed the position was a general one and filled in "Midfield" (with soccer as the sport) only. **[Observation 2.2 -> this should not be text field, instead it should be drop-down menu to help user choose]**. He also had no idea what Max and Min were so he just randomly selected a number **[Observation 2.3 -> need help]**. He commented that he felt lost when making the choices.

-He spent another 1 minute on choosing the skill-level. He thought it was hard to digest the meaning of skill-levels through text descriptions. He thought there were too many choices for the skill-level and he felt it difficult to make a decision. **[Observation 2.4 -> chop it]**.

-Total time spent on creating a profile on E-league: 5 minutes

-Patrick felt lost when he was on Profile Space of User. So he rated the easiness 6 out of 10.

## Task 2 – Create a game

-Patrick was asked to create a game.

-He was on Profile Space after logging in. He used 15 seconds to skim this page and to locate the "create" button. He felt the page was neat so he could easily know where to create a game.

-He was forwarded to Create Game space. He spent 2 minutes on this page to understand all the available options. He thought the page had too many options, so he chose to modify options from the top to the bottom one by one **[Observation 2.5 -> unguided]**

-He modified the first few options in the following sequence: Name->Sport->Date->Time. He spent 30 seconds to type and felt easy with it.

-He clicked "Change" in location field to modify the location. Then he was forwarded to Location Selector. He typed in an address and clicked "Search" button. The computer gave him several results. He chose the one he liked most. He felt it was easy and the whole process took him 1 minute.

-He was forwarded back to Create Game space. He modified "Preferences" and "Request to be player" in 30 seconds. Then he tried modify "position" and found that he should not do it before having a final list of players. **[Observation 2.6 -> also unguided]**

-He was forwarded to Player Selector. He searched and selected some available players in a minute. He thought he would need a search field to select players according to skill level but he could not this. **[Observation 2.7 -> add skill level filter]** Other than that, he felt good with it.

-He was back to Profile Space. He modified "position" this time. He spent three minutes to assign positions. He felt had no difficulty with this user interface but it was hard to assign positions.

**[Observation 2.8 -> User may not have enough information or knowledge to do it]**

-He eventually modified equipment. He just randomly picked one player because he did not have an idea to choose. **[Observation 2.9 -> equipment is meaningless?]**

-Total time spent on creating a game: 8 minutes

-Patrick felt there were too many options to modify without a guide. So he rated the easiness 5 out of 10.

### Task 3 – Joining a game

-He was asked to join a game.

-He was on Profile Space initially. He took a few seconds to click the Join button. He felt easy to do it because he already had a general picture of the system.

-He was forwarded to Join Game page. He quickly made a search and the computer gave him several results. He then picked a game. He felt good that the user interface was consistent with the Game/ Location Selector. He hoped to have a filter to select games based on type (Game/League/Tournament) **[Observation 2.10 -> add game type filter]**. It took him two minutes to do it.

-Total time spent on joining a game: 2 minutes

-Patrick felt the Join Game page was well standardized. He rated the easiness 9 out of 10.

-Then he was asked to join a game through invited/upcoming games field.

-He immediately found these fields on Profile Space after being told to do so. He clicked invited games field. There was 1 invited game on the list. He clicked it and was forwarded to Play Game Space. He went over the details of this game and clicked Join to accept the invitation. The whole process took him 1 minute.

-He commented it was hard to know this is the way to join a game without being instructed to do so. **[Observation 2.11 -> This field is unobvious]**

-Total time spent on joining a game through invited/upcoming games: 2 minutes

Patrick felt that it was hard to know this function but it was easy to use it once he knew. So he rated the task 8 out of 10.

# **S** TUDY REPORT

## Overview:

The following is a report of issues that arose from our user testing. They are organized in order of criticality.

## MAIN ISSUES

These are problems that impact the user's ability to complete a task in our system. They must be addressed before we can go forward with our user interface.

1. One of the main issues we noticed during the user testing is that the user didn't understand a lot of the concepts that we saw as obvious. For example, in observation 2.4 the user did not understand that the max and min fields referred to the number of players the user preferred to play with. We never included any type of directions or help menu. After the cognitive walkthrough we did include some help and directions for the user but it was only for certain parts of our interface. We decided to include a help page link and an FAQ link on each page of our interface. The help link will direct the user to a page that includes an explanation of every aspect of the page the user was just on. For example, in the edit profile page, the help link will lead the user to a page that explains everything from the sport preferences to the max and min fields in detail. The FAQ link leads to a page with general FAQ questions and answers about the website as a whole. This will help users to understand the general tasks and functionalities that are available. For example, in observation 1.5, the user didn't understand what a game/tournament is. These are very general features of the task he is performing. The FAQ link will help the user understand these options more clearly. Also, we want to provide the user with more immediate help. The user will now be able to understand options by placing the cursor over the button or field he is confused about. A help pop-up will appear when the cursor hovers over a function. In observation 2.5, the user spent too much time going through each option of the game space. By utilizing the help popup, he can understand the various options more clearly. The solutions specified in this section address observations 2.4, 1.3, 1.5, 2.5, 2.6 and 2.8.

2. Based on the comments given by the users, we realized that our interface is organized based on the functionalities we want to provide. Rather we should modify it to be more in sync with the tasks the user wants to perform. We will include a table of contents menu on the left hand side of our interface. The table of contents will include all the tasks a user wants to perform including create game, join game, edit profile, etc. In observation 1.1, the user was overwhelmed by the different drop down boxes in his profile space. He also found it hard to navigate to create a game in observation 1.4. By having all the options listed on the left hand side of the page, the user can identify immediately the link to the task he wants to perform. This solution helps with many of the problems identified in the observations but more specifically 1.1 and 1.4.

## SECONDARY ISSUES

Secondary issues include other problems that affect the usability of our system. Generally, they are not as important as main issues and do not really affect the user's ability to complete a task. They create temporary confusion for the user and inconsistencies within our system.

1. In observation 2.10, the user pointed out that we did not have an option to specify what type of event he wants to join. We will include a filter on the join page so the user can navigate through the events more easily.
2. When the user arrived at the game he wanted to join, he had difficulty finding the Join button (2.11). We will move the Join button from the bottom of the page to the top.
3. In observation 1.2 and 2.2, the user found it difficult to choose a specific position. We realize that the position field should be standardized. There will now be a drop down menus rather than a text field. There will be an option in the drop down menu for no preference since in some sports such a basketball, position is not really important.
4. To clarify the confusion about the skill level in observation 1.3 and 2.4, we will use advanced/intermediate/novice as the options for skill level in the edit profile page.
5. In observation 1.6, the user put down his name as the name of the game to be created. We will change the field to "game title" since this is more clear.
6. Both users requested in skill level filter when created or joining a game in observations 1.7 and 2.7. This option was left out in our interface.

7. Although we are going to add a task menu or table of contents to help the user navigate through our interface, there might be some users who do not realize that he should edit his profile before continuing on to other tasks. Also based on observation 2.1, we should bring the user to the edit profile page when he has just created an account.
8. Another mistake in our interface is the fact that we never gave the user a way of letting others know what equipment he has. The host of a game has no way of knowing which player should bring what equipment. This was evident in observation 2.9. Therefore, the user can specify what equipment he can bring as part of his edit profile page.

## POSITIVE FINDINGS

1. As flawed as our interface may be, we found out that it took longer for our second user to create a profile in Facebook compared to our interface. This was mostly due to the detail nature of the Facebook profile, but our interface was able to create a simple way for the user to sign up. There was no need to confirm.
2. Also, the ratings for the second two tasks were a lot better than the first. This is good to know because the user found it easy to navigate within our system once he signed up and edited his profile. Even without the modifications given in this section, our interface seems very intuitive to the users.