

Task Analysis: E-League

CONTEXTUAL INQUIRY PLAN: TALKING POINTS, QUESTIONS, TASKS

- **Introduce e-league to the participant**

E-League will be a software application that will enable people to create games, tournaments, and leagues on the web. Individuals will create profiles for themselves and can organize games, tournaments, and leagues in a group space environment that connects these profiles.

- **Ask for participant's help**

We would appreciate your help in determining the tasks that will be the basis of our design.

- **Ask the following questions**

- What sports are you interested in?
- How often do you play each sport you are interested in?
- For each sport you play, how many people do you play with?

- **Ask the participant to perform the following tasks**

- Create a profile of yourself that will help people gauge your sports interest, talent, and communicate with you. Determine what information will be viewable by your friends and what will be viewable by strangers.
- Organize a game in a sport of your choice with the usual number of people you play at a time of your choice.
- Organize a tournament or league in a sport of your choice.
- Join a game/tournament/league in a sport of your choice that you have not organized.

- **May ask questions or give users examples while user performs task**

- If participant does not know what to put in profile give examples: name, age, sports interests, positions played, skill level, etc.
- If participant cannot find enough players, how would the participant find more players or compensate for the lack of players?

- Would the participant be willing to invite players they didn't know?
- If participant cannot find a game/tournament/league to join, would the participant be willing to join a game/tournament/league with people they didn't know?

METHOD FOR GATHERING INFORMATION

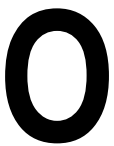
We will have one observer during the contextual query interview. The observer's job will be to ask the preliminary questions, ask the user to perform the tasks, and wrap-up the interview. While the user performs the tasks, the observer will write down the steps the participant goes through, each object the participant touches and how it is used, and the problems the participant encounters. If the participant gets stuck during a task, the observer will ask questions as to what the participant could have done to fulfill the task. For each observer we have created a write-up sheet which is labeled with sections of the contextual inquiry.

WRAP-UP TALKING POINTS

Thank the participant for their time. Give them the contact information of the group and invite them to join the Yahoo! group.

HOW THE PLAN CHANGED BETWEEN DIFFERENT INTERVIEWS

After interviewing John, we realized that it would be more useful if the user would actually perform the tasks. This is difficult to do because of the effort the subjects must go through to actually do these tasks. But we made sure that at least some of the tasks were performed. Also we realized after the second interview that the task of creating a profile can be confusing. It would be more useful to ask the subject to describe the type of information they would be interested in for people who want to join their game.



OBSERVATIONAL NOTES:

FIRST INTERVIEW

Name: John Kim

Contact: nakwon@gmail.com

Location: John's apartment.

After explaining our project, I asked John the following questions:

- 1) What sports are you interested in?
 - a. "Football, basketball and anything with a lot of movement. I am a very active person."
- 2) How often do you play each of these sports?
 - a. "I don't usually play football because it is very hard to find a good game. I play a couple times a year with my church and also with my frat. But when I play with my church, it's with girls and its touch football so it's no fun. For basketball, I play at the RSF (recreational sports facility) around once a week."
- 3) How many people do you usually need to play football or basketball?
 - a. "For football, its fun with a full team of 11 on 11 but usually it's a lot less. For basketball, I usually play 5 on 5 full court games."

Tasks:

- I asked John to organize an 11 on 11 tackle football game.
- He replied that he does not have the time to fully do this task because of upcoming midterms.
- I asked how he would go about this.
- He says he would look over the people in his phone and call them. He would advertise it during the meeting for his church and fraternity.
- I asked where he would play.
- Probably a park in the area.
- I asked him how he would join a local league or tournament.
- He says the only thing that he could think of is intramural sports but he is not interested in it because it is not tackle football.

- John did mention that he would be interested in joining a team of some sort. He liked the idea of playing with the same group of people. He said it is easier to coordinate plays and strategies with a team.
- I asked him how he would put a team together.
- He said he would call his friends and tell them he wanted to create a team. The team would consist of at least 4 players but no more than 11 players.
- I asked him to create a sports profile of himself.
- He did not understand this task. Probably name and contact information.
- I asked him to organize a league or tournament.
- He said he would do the following: email the list-serve for his fraternity and Major, advertise the league through signs on campus, based on the replies he would organize the league.
- I thanked him for his time.
- (I later asked John the following question) What information would you want to know from a profile of someone looking to join your league?
- FA or a team, coed or mail, flag or tackle, weight and height, ethnicity, equipment or not, waiver form for being hurt in football, preference, what game or sport on a scale of 1 to 5

SECOND INTERVIEW

Name: Kadhira Rajagopal

Contact: kadhira@yahoo.com

Observer: David

Location: David's room

David used his desktop to record his observations while Mr. Rajagopal had full access to his laptop, cell phone, name list of his students, pen, paper, and a map.

Starting time: Saturday October 1, 2005 11:10am.

Explanation of our project: "Hi Mr. Raja, we are creating a way for people to create games, leagues or tournament on the web. Our application will mainly focus on solving the many problems that

people currently have in communicating with players and determining the date, location and logistic of a sporting event.

Questions:

- 1) Would you like to share your experience in organizing a sporting event?"
 - a. "I always play basketball with my students. We usually play right after school or on weekends. Usually I don't have to really organize a basketball games because I can always find my students on the basketball court. I thought about organizing some tournament but I haven't really tried because the students may not have a strong sense of commitment. They like to play basketball but it is hard for me to keep them playing and practicing regularly."
- 2) So you play very often! How many students you usually play with?
 - a. "That depends on my schedule. I'm currently going to college myself for a Master's Degree in Education. Usually I play three or four times a week with my students. There are about twenty students and we have 2 basketball courts. So we have four half-courts playing 3-on-3 or two full-courts playing 5-on-5."

Tasks:

- David then went on to ask the teacher to organize a basketball day so that he could observe his current way to organize the sporting event.
- However, Raja said he used to simply ask his students at the end of class to see if they want to play basketball after school. He had never formally organized a sporting day for them. Nevertheless, he wanted to try and so agreed to do so during the interview.
- First, David asked Mr. Raja to make a profile for himself.
- The high school teacher did not understand why he needed a profile.
- David then explained that it could help other players to know more about him and decide whether to play basketball with him. A player profile can include information about sports interest, talents and contact information.

- Mr. Raja thought he did not need that because if he wanted to organize some formal games, he would not be involved in the games. Even if he would play in the games, he and his students all know each other well and there was no reason for them to make any profile.
- Next, Mr. Raja was asked to start organizing a basketball day.
- Mr. Raja then decided to play with his students on the next day, which is a Sunday.
- He first looked at his students list and started to call up the students.
- He had all his students' phone number saved in his cell phone and so he called them in alphabetical order.
- The first two students did not pick up the calls in that Saturday morning. The teacher then left them voice messages. The third student had his mother answered the call but she said her son was not at home.
- The forth student picked up the call and Mr. Raja asked if he wanted to play basketball on Sunday. The student said he wanted to see how many of his classmates would go. Mr. Raja could not answer because he did not know the number of students who would play basketball on Sunday.
- Then the student said he would go only if his friends would go together. Then Mr. Raja told the student that he would call back when he knows whether the student's friends would go.
- Mr. Raja called the fifth and sixth students, and they both said they had other commitments on Sunday. The seventh student said Sunday would be a family day and he had to ask for family's permission. Mr. Raja then asked the student to call him back later. The student did not have the teacher's number, and so Mr. Raja gave him his cell phone number.
- During Mr. Raja's eighth call, the fifth student called in. The teacher then kept the fifth student on hold and switched to the fifth student. He told the teacher that he had changed his plan and he would like to play basketball. Then Mr. Raja switched back to the eighth student, but he had already hung up. Mr. Raja then called again, and the student said he liked to play on Sunday.
- Mr. Raja then went on calling 12 more students. Three would come, four did not answer the call and five needed more time to consider. Among the five students who needed time to consider, four of them were girls and they wanted to see if their friends were coming too.
- The whole task took about 80 minutes and Mr. Raja called 30 students, some of them had not answered the calls. During the task, Mr. Raja learned that he could ask some students

- to call their friends so that the teacher could make less calls. Mr. Raja then waited the whole afternoon for his students to call back. In the evening, he concluded that about 13 students would join the game, while a few more might join up during the game. He wrote down each student's decision on the name list.
- While Mr. Raja was waiting for the students to call back, he went out for grocery shopping. During the two hours, three students called back and asked who would be going to the game. However, as Mr. Raja did not have the name list with him, he could just vaguely recall the roster from his memory.
 - David further asked the high school teacher if he would organize a tournament or a league.
 - Mr. Raja said it would be too much work. It took him so much time to organize a basketball day, and a league would definitely take him forever. He was looking forward to a new way to organize a sporting event. If the process could be made much easier, then would then consider organizing a bigger event. He expressed interest in creating teams, but decided that it would be too much of a hassle.
 - When asked if he would play with strangers, Mr. Raja said he and his students probably would not do that because he wanted to confine the games to their own school. But if in the future he could really organize a league using our web application, he might be interested to play with students from other schools within the district.
 - "Thank you Mr. Raja. Hope you will have an enjoyable basketball day! We will analyze the many difficulties you have in organizing a sporting event and will come out with an application that can address your needs accordingly."

THIRD INTERVIEW

Name: Patrick Poon

Contact: patrickest@berkeley.edu

Observer: Edward

Location: Patrick's home

Patrick is 22 years old, and a third year MSE at UC Berkeley. He is usually a game organizer of a soccer team.

The interview was conducted from 4pm until 5:30pm. All of the notes were taken down on papers.

Questions:

- 1) What sports are you interested in?
 - a. Soccer, basketball
- 2) How often do you play?
 - a. Once every two weeks
- 3) How many people do you usually play with?
 - a. It is a large range from 5 to 12

Tasks:

- Please create a profile for yourself. Include things that your would want to know about other people who are playing looking to join your game.
- Patrick then wrote on a paper in the order of name, email address, occupation, and sport preferences. He also wrote down titles of home address, cell phone number, date of birth. However he showed hesitation to write down afterward and decided to leave them blank. I asked him why he did not fill up these fields, he said he had a concern of such personal information that he would not like to reveal them to public.
- I asked him to organize a soccer game.
- Patrick first opened Microsoft Outlook 2003 and clicked into the calendar to find a day for this soccer game. Then he marked it on 10/22 at 2pm in Outlook.
- Being asked how to determine the time and day of this game, Patrick explained that most of other players were students so that he usually picked Saturday with no exams in the following week.
- After choosing a time, he started writing an email on hotmail.com for the upcoming game. The content of this email was built upon a template saved on his computer. It had three main components – a brief introduction, the time and the location of the proposed game.
- At this moment, I asked him why he could make a decision on the location without making a search for it. He answered that this was a conventional place and it was not easy to find a new location. He also mentioned that he would like to find a new place to play if he could find it. He sent this email as a carbon copy (cc) to one of his mailing list which was

- named as *soccer-members*. Then he made a few calls with his cell phone to three people to ask whether they would join the game and marked it on a paper. I asked him why he would call and send emails both. He said some of his friends didn't like to use email so he had to call them directly. My second question was how he would find more players if there were not enough players. He said the number of players was quite flexible that he would start a game if more than half of members could join. Otherwise he would reschedule it.
- He got a reply which was prompted in MSN messenger soon after he sent that email. The reply was sent by Austin that he could join this game. Patrick then marked it down on his paper. Because of the time constraint that I could not wait until all his members sent back a reply, I asked him to illustrate the following processes. He told he usually waited for few days for all replies. If one didn't reply him after few days, he would make a call. When more than half of members confirmed to join, he would send a notification to all members that the game would be confirmed. If he got rejected by more than half of members, he would send a cancellation immediately.
 - I asked him to organize a league or tournament.
 - Patrick pointed that he could not show me directly how he organized a tournament since it would involve people so much. Instead, he showed me email records related to a previous tournament. In emails, he sent back and forth to five different people to decide the time and location of each scheduled game. Each decision required him to send and reply to about 10 emails. Those five people were team leaders of another five soccer teams.
 - I asked him to join a local league.
 - Patrick said he had no idea how to find a local game. To smooth the process, I gave him some pseudo local games with varied sports, numbers of sports dates, and locations. I also mentioned that the games marked with a tick were the game in which one or more of his friends would join. Patrick first selected games of soccer and basketball. Next he chose all the games nearby to his home. Then he kept Saturday games only. By that time, I asked him why he just kept Saturday. He said this was his preference to play games on Saturday only. With the previous selections, there were only three games left. One of which was marked a tick. Patrick put this one as the top chosen one and other two as less preferred games.

- I asked him why he picked this order. Patrick explained that he believed he would have a greater game with people he knew than strangers.

A ANALYSIS OF CONTEXTUAL INQUIRY:

- **What tasks do users now perform and what tasks are desired?**

Currently, the existing system of social interaction limits the amount of networking capabilities between our users. They can perform some tasks easily while others require a lot of effort. For example, the user can call a couple of friends and go to the RSF very easily. John is able to do this at least once a week. Other tasks that are currently performed by our users are: joining an intramural league, playing sports with fraternity/church/high school or other organization, and going to parks or gyms and hope to find other players there.

There are many tasks that the user desires but are very difficult for them to perform. John said he had trouble finding other football players in Berkeley. For Kadhira Rajagopal there was less of a problem finding players, but the communication between the organizer of the game and the players can get very complicated. For example, when he realized that there were not enough players, he had to call back the players he already contacted and let them know that the game is canceled.

From our observations, we can see the need for the following tasks:

- Contacting local players that the user does not know
- Creating profiles for players so organizers of games can filter who they want playing
- Quick way to cancel a game
- Easy way to collect contact information for players. (John could send out an email on the list serve for his fraternity and major but only knows the email address of the players involved and not the phone number. If there is any last minute information, he would not be able to call them.)
- The user desires to create a game between his team and another team in the area. (John does not know how to challenge other fraternities to play a football game. There is no list serve of all the fraternities interested in playing football).

- The user wants to join a league or tournament with desired set of rules. (John wants to play in a tackle football league, but he could not find one. The only league available is via Berkeley intramural sports which do not allow full contact.)

- **How are the tasks learned?**

The definition of creating a profile could be abstract to many users. The task of creating a profile often needs to be explained. Users have to be guided and be presented a standard “application form” that contains blanks for them to fill in. Moreover, the function of canceling an event is often necessary to organizers when an event cannot be held. This task is learned when the organizer knows that an event has to be cancelled due to low attendance or emergency such as bad weather. The task of joining a game is also common to users. They need detailed information or an instruction on how to perform this task. The task of organizing a game/ tournament/ league can be a huge task. It involves many subtasks and requires leadership and persistence to organize the event smoothly.

New tasks can possibly be learned when performing a task, which is usually a difficult one. Users can come up with better solutions to break up a huge task into smaller ones. For example, Mr. Raja in David's interview learned that he could ask his students to contact their friends to reduce the amount of work.

- **Where are the tasks performed?**

Since sending emails is critical in the communication part, the tasks are mainly performed at home, in office or wherever there is a computer with internet access. Users need an environment with suitable lighting to read emails on monitor. A noisy environment is not acceptable because people sometimes have to make phone calls for communication purposes. Moreover, organizing a game usually takes a long time, so users want a comfortable environment, probably with a seat and a desk to perform the tasks. However the time constraints are not critical so users can accept interruptions. For creating a profile, users have concerns of personal data privacy, so the presence of bystanders may affect their work. For other tasks, the presence of bystanders should have little effect.

In the interview by David, for example, the high school teacher performed the task in a comfortable room. While waiting for his students to call back, he went out to grocery store and had some trouble in performing the task. He did not bring the roster with him and so could not give enough information to his students when they requested.

- **What is the relationship between user and data (personal, private, public, etc.)?**

Personal data are, but not limited to, the profiles and schedules of users. The address book, contact list or any personalized information that the users have can also be considered data. A profile is not accessed anywhere; users tend to access it at their own computer because of privacy concerns. But still users should be able to access change their profiles on any machine. Calendar and contact information should be portable and be moved between machines because users want the flexibility to access them in order to organize or to join a game/ tournament/ league. The common data of tasks are the information of a game/tournament/league. There is a chance that multiple users access the same piece of information concurrently.

Due to the concern of privacy of personal information such as home address, which is stored in users' profile, users should be able to set their access rights to control who can see and where to reveal. In Edward's interview, Patrick concerned about his privacy and he pointed out that he did not want to have his profiles revealed to the public. The information of games/ tournaments/ leagues can be quite sensitive so it may be necessary to protect personal information in some way.

- **What other tools does the user have to complete the tasks?**

Users have various tools to perform tasks. A contact list is probably the primary tool. This can be hard copy (such as a phone book with email addresses) or soft copy (such as the address book in Microsoft Outlook). With a contact list, the organizer can use email and phone to contact the players. If emails and address book applications are used, computers with Internet access are required. A calendar is also frequently used to mark any appointment and check the schedule. When a player joins the game, the organizer may add the player to a roster sheet that keeps track of who will be in the game.

Patrick used all the tools above to accomplish the tasks, while Mr. Raja used all the more traditional ways to contact, i.e., no computers and emails are used.

- **How do users communicate with each other regarding the tasks?**

Usually the organizer of a sporting event has all the contact information of the players, including their phone numbers and email addresses. He/ she can either send out emails or call them up when an event is organized or changed in some way. When the organizer uses email as the communication channel, an email list is often used to keep the email addresses. If the organizer wants to call people, he/she has to call the players one by one. However, it is often hard for players to communicate with each other because they usually do not have information of other people.

In the interview by David, the high school teacher called his students and it took almost a whole day to be able to contact every body. Moreover, his students wanted him to call back after he was sure a friend of his student would be going. That added to his responsibility and the number of calls he had to make. An email list can help the teacher to broadcast his plan to his students. Suppose he sends out an invitation to his students, he then can ask his students to check email the next day when he sees his students at school.

- **How often are the tasks performed?**

That depends on the players' occupation, age and the level of enthusiasm for the sports. For example, students usually play on weekends and do not play during the exam periods. People who are in a tournament/ league may play more often, say, twice a week to keep themselves in shape.

Patrick, the test subject in Edward's interview, said that he and his friends play once every other two week. Because he is a student, he probably does not play during the exam periods.

The higher school teacher in David's interview plays pretty often. He said, "That depends on my schedule... Usually I play three or four times a week with my students..." John also said he goes to play basketball at least once a week.

- **What are the time constraints on the tasks, if any?**

The time constraints are up to the organizer to determine. If he/she plans ahead, everybody in the group will get more time to make decision and come up with better logistic solutions. However, if the event is planned too early ahead (for example, 2 months before the event), players may not be able to predict their schedule and that may add to uncertainty of any planning. On the other hand, if the organizer sends out the event invitation too close to the proposed date, other players may have earlier commitment and will not have enough time to schedule for the sporting event.

In David's interview, the high school teacher wanted to organize a basketball day on Sunday but he just contacted his students the day before it. Some students said they already had something to do on Sunday, while some others could not make an immediate decision and needed time to think about it. A web application will allow more time for the student to consider an invitation. Moreover, it will reduce the immediacy and urgency so that students will be more likely to join, or they will not feel sorry to reject an invitation.

Patrick, in Edward's interview, gave his friends enough time to make the decision. It is possible that his friends will change their decision, but that gave him more flexibility to make decision. He could call the players if they do not reply within a few days. It also gave him more time to reschedule an event if less than half players could attend.

- **What happens when things go bad when while performing a task?**

Because organizing a game or tournament requires coordination between many people, a mix up in communication can have drastic results. If the organizer does not assign some one to bring the equipment then no one can play. Communication between different parties is the most likely cause of unforeseen consequences. For example, when the high school teacher has to call everyone more than once to confirm, he must make sure there are no misunderstandings. Some players might think that there is a game when others thought it was canceled.

6 TASKS

TASK ONE (EASY)

Task Description

The user wants to create a profile that will be viewed by other users when inviting or allowing players into their game, tournament or league. The user wants the profile to enable friends to contact them and strangers from viewing information.

Method

1. If the user does not know what information to put down, the observer provides suggestions
2. The user writes down several pieces of personal information on paper. The pieces of information include but are not restricted to name, email addresses, occupation, sports preferences, home address, cell phone number, and date of birth.
3. The user then determines sensitive pieces of information and decides to keep them private by erasing them or crossing them out.

Objects

Pen, Pencil, Paper

Environment

The user performs them in the privacy of his room. Other than the observer, there are no other individuals in the room and the user creates a profile from suggestions from the observer.

TASK TWO (EASY)

Task Description

The user wants to cancel an event that the user organized.

Method

1. The user goes through the list of people invited to the event.
2. The user then attempts to contact each individual via instant messaging, cell phone, and email.
3. If the user wishes to reschedule a new event is proposed to each individual. If not the event is completely cancelled and each individual is notified there is no possibility of rescheduling.

Objects

List of players, Cell phone, Instant-messaging client, Email client

Environment

The user performs them in the privacy of his room. Other than the observer, there are no other individuals in the room. The user engages in communication with other individuals via a device.

TASK THREE (MODERATE)

Task Description

The user wants to create, organize, and execute a single sports game. The user has an idea of the sport, number of players, equipment needed, and date of the game.

Method

1. The user begins by filtering known individuals that can be contacted through some form of communication. The user selects individuals that the user would like to play with and deems interested in attending the game.
2. The user determines a possible date, location and the approximate number of players for the game.
3. The user contacts these individuals via instant messaging, cell phone, or email explaining the user's intent and identifying the possible date, location, number of players, and other individuals invited.
4. The user waits for replies of positive confirmation.
5. After a user-determined fraction of the individuals invited reply with a positive confirmation, the user sends a notification that the game will occur.
6. If the user does not receive the user-determined fraction of emails, the user sends a notification that game is cancelled or returns to step 1 except changes the individuals, date, location, and/or number of players.
7. If the game happens, the user determines who will bring the equipment via instant messaging, cell phone, or email.

Objects

Calendar, Map, Cell phone, Instant-messaging client, Email client

Environment

The user performs them in the privacy of his room. Other than the observer, there are no other individuals in the room. The user engages in communication with other individuals via a device.

TASK FOUR (MODERATE)

Task Description

The user wants to create a team that consists of a group of individuals that play the same sport and are willing to play a game/tournament/league against other teams.

Method

1. The user begins by filtering known individuals that can be contacted through some form of communication. The user selects individuals that the user would like to play with and deems interested in joining the team.
2. The user contacts the individuals via instant messaging, cell phone, or email and expresses the intent of putting together a team of players.
3. The user waits for replies of positive confirmation.
4. After a user-determined fraction of the individuals invited reply with a positive confirmation, the user sends a notification that that team is assembled and sends out a roster.
5. If not, the team is not assembled.

Objects

Calendar, Map, Cell phone, Instant-messaging client, Email client

Environment

The user performs them in the privacy of his room. Other than the observer, there are no other individuals in the room. The user engages in communication with other individuals via a device.

TASK FIVE (HARD)

Task Description

The user wants to create and organize a tournament or league between teams. The user has an idea of the sport, number of players, equipment needed, and date (tournament only).

Method

1. The user begins by filtering known individuals and teams that can be contacted through some form of communication. The user selects individuals and teams that the user would like to play with and deems interested in joining a league or tournament.
2. The user determines a possible date (tournament only), location (tournament only) and the approximate number of players for the game.

3. The user contacts these individuals via instant messaging, cell phone, or email explaining the user's intent and identifying the possible date (tournament only), location (tournament only), number of players, and other individuals and teams invited.
4. The user waits for replies of positive confirmation.
5. After a user-determined fraction of the individuals and teams invited reply with a positive confirmation, the user sends a notification that the tournament will occur or the league is formed.
6. If the user does not receive the user-determined fraction of emails, the user sends a notification that tournament is cancelled or the league is not formed or returns to step 1 except changes the individuals and teams, date (tournament only), location (tournament only), and/or number of players.
7. On confirmation, the user determines the tournament brackets or the league game schedule based on communication with players and teams as to convenience.

Objects

Calendar, Map, Cell phone, Instant-messaging client, Email client

Environment

The user performs them in the privacy of his room. Other than the observer, there are no other individuals in the room. The user engages in communication with other individuals via a device.

TASK SIX (HARD)

Task Description

The user wants to join a game/team/tournament/league that is created by another user.

Method

1. The user sifts through a list of events and filters out games that do not align with the user's sports interests.
2. The user then filters out events that are too far away.
3. The user then filters out events that occur on unavailable dates.
4. The user then filters out events that do not contain known individuals.
5. If there are events left, the user joins these events if there are no conflicts between them.

Objects

List of pseudo-games with varied sports, number of players, dates, locations, and individuals

Environment

The user performs them in the privacy of his room. Other than the observer, there are no other individuals in the room.