Section I – Inspiration

The inspiration for this project comes from two sources. The first is the (now unsupported) iPhone app “Ultistats”. Ultistats is an app designed for the iPhone to help Ultimate Frisbee coaches manage their teams. It collects statistics on a team and individual level by providing an easy interface to input basic information about what is happening in an Ultimate game and compiling the information into usable data. Though the app is very useful, I think a similar concept could be extended further to include significant additional useful functionality. Most significantly, the app is fairly limited in the type of data that can be entered about the game (notably it is missing the ability to consider where on the field anything happens) and is limited to local processing and viewing of data. It is impossible for anyone other than the user of the app to view what has been input, a fairly severe limitation.

The other inspiration for the project comes from various game tracking software that exists for other sports (for example espn.com’s GameCast, nfl.com’s Game Center, or CBSSports.com’s GameTracker). On these websites, a user can view updates of a sports game live online with information provided by someone inputting the events of the game. This makes it possible to closely follow what is happening in a game that is not being covered by a TV or radio station.

Unfortunately however, these sites have two limitations. First, they do not cover Ultimate Frisbee. Second, they do not provide the ability for a fan who is watching a less popular game to use their software to provide updates on the game.

With my project, I hope to create software that will pull the best from both of these sources: the visual data collection and live online updates from commercial game tracking software along with the open platform and Frisbee focus of UltiStats.

Section II – Vision

The vision for the project is to create software that enables tracking of a game of Ultimate Frisbee in real time. There will be three main components: a tablet app for the person who is inputting data, a web
interface for the person who is tracking the game, and a server facilitating the exchange of data. The tablet app should allow the user to create and manage a team, manage the players on a team, and most importantly input information about a game. They should be able to tap the approximate area on a model of a field that a catch is made and then select which player made that catch. This data should then be transmitted to the server. The web interface should allow a user to find a game they are interested in tracking and provide a visual tracking of the game, that shows who has caught the disc and where on the field. The server should act as the go between, allowing multiple users of the web interface to subscribe to whichever games they want.

Section III – Goals
I am roughly going to break down my goals into four categories:
(1) Goals that I believe constitute the minimum viable product for the project
(2) Goals that are not necessary for the minimum product, but I think are reasonable expectations for a semester
(3) Stretch goals that may be possible to complete in the semester if things go well, but I’m not necessarily expecting to complete
(4) Dream goals which are probably unrealistic for the course of the semester, but might be worth future exploration.

The boundaries between these categories are fairly loose and likely to change throughout the course of the semester.

Minimum Viable product goals (Estimated completion: March 25)
• Create a tablet app which inputs data from an Ultimate Frisbee game by tapping where catches are made
• Create a web interface for a user to visually track a game
• Create a server to facilitate communication between the app and the web interface.

Semester expectation goals (Estimated completion: May 1)
• Allow tablet user to create and manage teams with players
• Allow web interface to create and manage teams with players
• Collect stats on a player and view them by game, tournament, season, or lifetime on both tablet and web
• Allow users to upload pictures of players to make the interface more visual
• Publicly and privately broadcast games
Stretch goals

- Other functionality for the tablet user that would be helpful at an Ultimate tournament, such as
  - The ability to draw up plays
  - Connect to usaultimate.org to collect information on the tournament
  - Information about the other team if they (or a previous opponent) have used the app
- The ability for multiple people using the app at the same game to broadcast simultaneously and combine the data intelligently
- Support for other interfaces (e.g. a web interface to input data, app to view data, support for phones, etc.)

Dream goals

- Integration with GPS data from players phones to automatically update position of all players
- Integration with camera to do the same
- Strategy suggestions that analyzes what the other team is doing and what might be able to counter it.

Section V – Evaluation

Most of the evaluation of the project (both as a final product and at checkpoints) should be fairly intuitive. The effectiveness of the app is mostly based on what functionality has been implemented. The one trickier area is in the important project goal of usability. To ensure that the project is continuing along a reasonable path as far as usability goes, I plan to periodically check in with representatives of the intended demographic for the app, namely college ultimate players. I will ask both experienced and novice ultimate players to evaluate the usability and intuitiveness of the app and utilize the feedback to improve.

Section IV – Technology

This constitutes only a first pass at the technologies I think I will need.

I plan to code the tablet app initially to support an Android tablet. I will therefore need to use the Eclipse IDE, and the Android ADT and SDK. If I am able to support other platforms, other technologies will be necessary.

For the server, I plan to use Amazon’s cloud service.