



## A Project Proposal

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### App Definition Statement

GameTime Stats is a real-time lacrosse statistics application specifically designed for iPads. The app will allow users to make and maintain teams, as well as track various statistics right on the sideline. Lacrosse is a fast paced game, so recording statistics can be a challenge without video playback. This app attempts to simplify that process through sophisticated gestures and a simplified layout.

This app is targeted mainly towards collegiate level college lacrosse coaches. This will be a one-stop shop to store all of the stats they could ever want. This app can be used for high school, or theoretically, any lacrosse team. However, it is geared towards the high intensity, high reward team that needs every second to count.

GameTime Stats will track everything from the time each player was on the field, to every ground ball or caused turnover each player has contributed. More importantly, one person, right on the sideline of the game, will maintain it all.

### The Setup: App Flow

#### *Home Screen*

Upon running the app, the user will be presented with a home screen that simply displays all of the features our app has to offer. Details for each option are listed below.



### ***Option 1: Create New Team***

This page is pretty straightforward; it allows the user to create a new team. The user chooses a name and optional icon for the team, and will have the option to customize the team colors (one major and one minor) that will be used to customize the interface for that specific team. The colors are set to GameTime Stat's light gray and royal blue color scheme as a default, but any color choices made for the team will persist through the app. A team would be nothing without any players, so after the team settings have been finalized, the user will continue on to a screen that lets them add players.

This page will also inquire about game times. The duration of play for one lacrosse game half varies depending on the level, so this field will help to determine the length of each half at game time.

### ***Add Player***

Women's lacrosse games are played with 12 players on the field at the same time: one goalie, four defenders, three midfielders, and four attackers. The user does not need to fill out all player form sheets at one time, because the data will persist, but they will not be allowed to start a game without an adequate number of players. There will be a visible player count to help the user keep track, and there will be reminders for that when necessary.

Each player has fields for their name, number, an optional photo, and position on the field. This app will only allow one instance of a number for simplicity reasons, so it will disallow number repetition when entering.

### ***View Current Teams***

This page will display all of the teams currently created for the specific device. It will list their name and Icon, with options to expand their list of players and stats history from past games. Each team will be editable, leaving the user the option to add or remove players, or completely remove the team.

### ***Team Stats History***

This page will first show a list of all games that team has played. The user will have the option to show or hide the statistics details for a specific game. The stats will be an overview of the game as a whole. For each game, there will be an option to see more details for each specific player on the team. This will pull up in a player stats page.

Each player will be individually recorded stats for draw controls, assists, caused turnovers, goals, shots on goal, shot percentage, saves, clears, free position attempts, free position goals, free position percentage, turnovers, and ground ball pickups. This data will be used to compile the statistics pages.

### ***Overall Time Stats Per Game***

Since each player's time is being recorded, there will be a page devoted to comparing the players' playing time. This can be used for fairness or analysis purposes.

### ***Player Stats Per Game***

Each player has specific stats recorded per game, and this page will show that data. Each type of statistic will be listed, and each player's values for that game will be listed there.

### ***Start Game***

#### ***Startup***

This page will let the user begin a new game. The user will only be able to continue to this page if at least one team is currently created.



### ***Opponent/Date Initialization***

A modal presentation form will appear upon entering this page that requests the visitor's team name, as well as the date. This feature will be used to help the user keep games straight (Game 35 would mean little to the user without more context).

The timer at the top of the screen will be pre-populated with the default duration chosen upon team creation/editing, and there will start and stop buttons that will allow the user to keep track of the time during game flow. There will be scores for home and away, and functionality to update those scores at the top of the screen on the scoreboard as well. This feature will be mainly to view the final scores, and compare that with the final stats for players in that game.

The user will have the option to cancel the game at any time, but will be warned that all game progress will be lost.

The app will generate a circle for every player on the field in the bench area located on the bottom portion of the screen, and a their unique jersey number will be used to identify each player object. The user will be able to drag players from the bench to the field, and the players on the field will be indicated as starters. The user will not be able to start the game until there are exactly 12 players on the field (one goalie, four defenders, three midfielders, and four attackers) to ensure that no subbing errors were made. Regardless of time (playing or not) the user will be able to make substitutions for

any two players by dragging a sub from the bench, and holding them over the current field player. This will remove the field player from the field, and leave the sub in their place.

#### *Game Time*

Once the field has been set up correctly, the user will be able to start the game. Each player will have their own timer that will be active for the entire time that a player is on the field.

Tapping once on a player that is currently on the field will bring up a popover menu of all of the types of stats a player can achieve, and will allow the user to easily increment that stat for the selected player.

#### *Game Completion*

When the game timer runs out, the game has ended, and all of the players are removed from the field.

#### *Final Stats Presentation*

Another modal view controller will appear that will give a summary of all of the stats that took place during that game. The app will save the game stats, and give the user the option to return to the home screen.

## **APIs and Resources**

### *Core Data*

The app will use core data to make sure that all of the teams and stats persist between startups. The data is all user populated.

### *NSUserDefaults*

NSUserDefaults will be used to ensure that each team's major and minor color choices will persist throughout the app.

### *Cocoa Pod Color Pickers*

The users will have the freedom to choose any two colors they want as their major and minor options, so this app will implement a Cocoa Pod color picker. Currently, it is planned that the app will use the pod Swift Color Picker, which can be found at the link below.

<https://cocoapods.org/?q=lang%3Aswift%20on%3Aios%20color%20pick>

### *UIGestureRecognizer*

UIGestureRecognizer will be used to move players on and off of the field. The pan gesture will be used to move players around on the board, and the tap will be used to update stats

## **Timeline**

### ***Week One***

Organize the Model and Storyboard layout. Make sure that the data is being stored in the most efficient and robust way possible, and implement Core Data features that allow data to persist past the initial app run.

### ***Week Two***

Complete the make a team page. None of the other pages can be created and accurately tested until this page is running correctly. Teams are needed for games and stats.

### ***Week Three***

Complete the Start Game page. Now that teams are complete, we can use a test team to set up the in game features. Having a test team will allow us to test different features of the UI, as this is the most important feature of the Start Game Page.

### ***Week Four***

Complete all stats pages. The overviews for the game should come first. Then re-manipulate the data to appear in the player and team stats pages in the view team page as well.

### ***Week Five***

This week will be reserved for finalizing the UI and testing to make sure the app is updated for a high quality submission. Anything else that was not completed in previous weeks will be high priority during this week