

Concepts and Early Prototype

CS 352 - Team 18

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1. Application Summary

The poolShark application for mobile and tablet devices will have a main goal of interactively coaching users to increase their skill level as a cue sports player.

Cue sports is the broad category that includes pool, billiards, snooker, and other such games.

The target audience of the poolShark app are cue sports players and enthusiasts with an interest in progressing in skill level, in the low to medium skill range. This skill range is chosen because highly skilled players will likely not feel the need for this application. Team 18's research through various observations and interviews has supported this choice of target audience.

The poolShark app will interactively coach by copying the state of a real world cue sport table to a virtual table, via a picture taken with the device's camera, and suggesting, explaining, and virtually executing game moves.

Different concepts of the poolShark application have been developed around the main goal in order to to maximize viewability and in order to include secondary goals of competing with friends' scores, meeting up with friends to play cue sports, or displaying more technical coaching and tracking for highly skilled players.

2. Concept 1: Pro

2.1 Concept 1 summary

The pro concept of poolShark is focused on catering to the needs of a user on the higher side of the skill spectrum. It has features that offer a more immersive and technical experience, but may be confusing for users with little experience in cue sports.

2.2 Concept 1 features

-Goals

- Set goals to be met per day, week, or month
- Includes list of goals to be set
- Includes manual input of goals (would require manual in-app tracking)
- Includes graph of goal progress vs time

-More statistics

- Keeps track of larger number of statistics
- Keeps track of statistic per unit time (eg. "Games played this month: ")
- Includes graphs of statistic vs time

-Play with a pro

- Allows user to play a game against the application by virtually showing the user the opponent move and instructing user to position physical playing balls according to the virtual Ball placement
- Recommended to be used with minimal number of balls for ease of ball placement
- Includes options to customize experience

2.3 Concept 1 sketches

*the following sketches highlight the features unique to concept 1

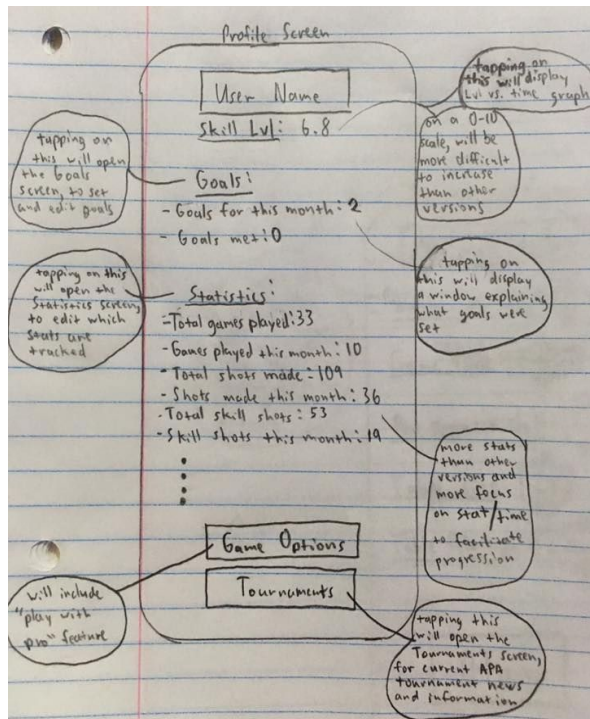


Fig 2.a

This is the profile screen that is used to view your set goals and statistics. This concept features more statistics than others.

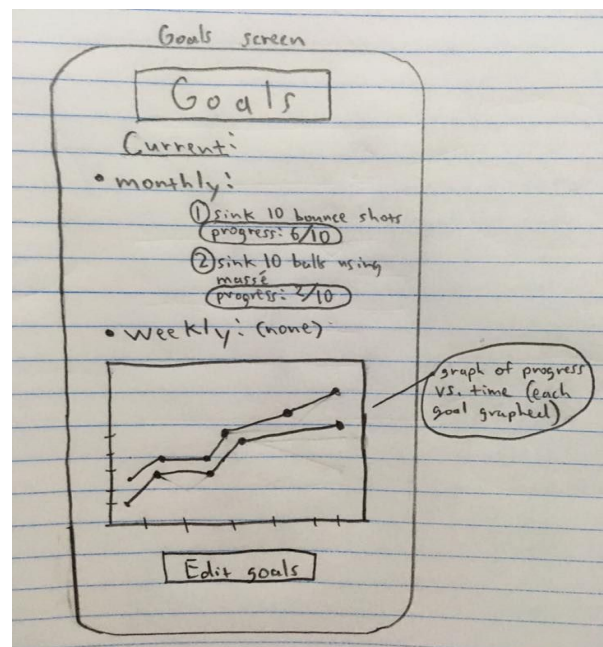


Fig 2.c

This is the goals screen that is used to view a more in depth explanation of goals than the profile screen. The goals can be selected from a set of goals or entered manually

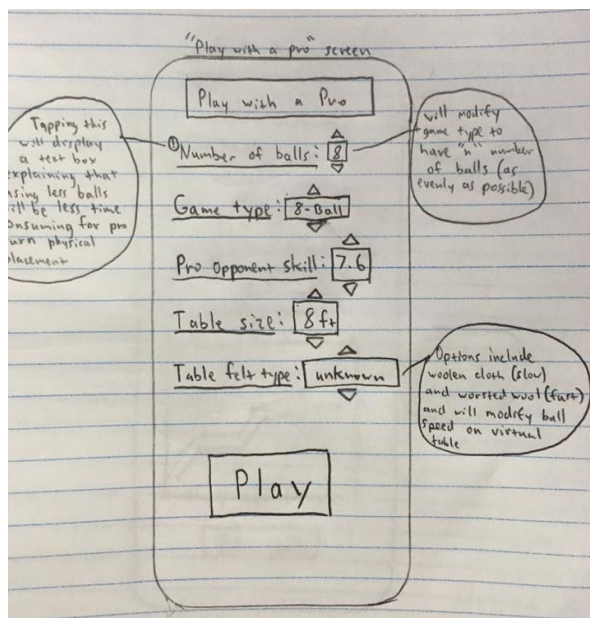


Fig 2.b

This is the "Play with a pro" screen that sets up the game. The input boxes allow for scrolling up and down to change the value.

3. Concept 2: Social

3.1 Concept 2 summary

The social concept of poolShark includes features meant to promote social interaction and friendly competition. This concept offers these features in addition to the coaching features of the application. The technicality of the statistics tracked as well as the coaching would be reduced to a normal level, as opposed to a high level in the pro concept.

3.2 Concept 2 features

- Friends list
 - allows adding friends for comparing statistics and meeting to play cue sports
- Broadcast playing location to friends
 - allows user to broadcast the location the user is playing cue sports at to friends
 - will allow use to select nearby public locations to play cue sports (eg. bars, pool halls) and broadcast as playing at that location, as long as the user is physically at that location
- Public statistics
 - Allows user to select which statistics the app will track as well as which statistics will be viewable to friends or the public
- Sync with contacts
 - Will allow the user to sync the app with their contact list, adding anyone in the users contact list with a poolShark account to the users in-app friend list

3.3 Concept 2 sketches

*the following sketches highlight the features unique to concept 2

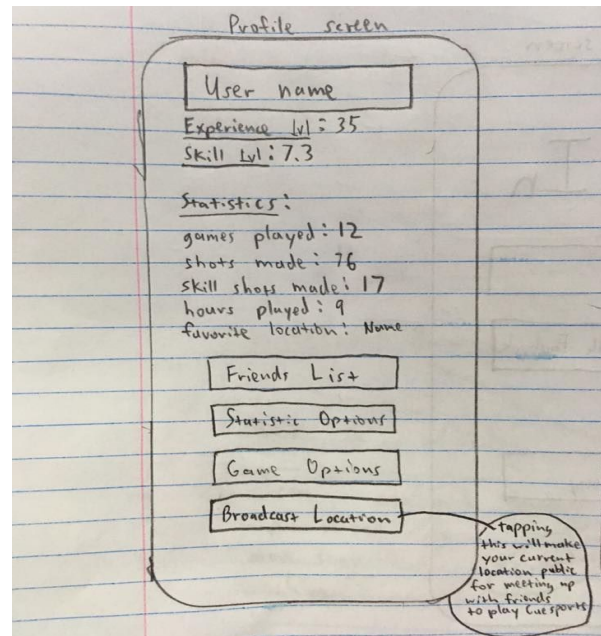


Fig 3.a

This is the profile screen that is used to view your tracked statistics. This concept includes a link to the friends list screen, an option to change the statistics tracked and made public, as well as an option to broadcast the user's current playing location to friends.

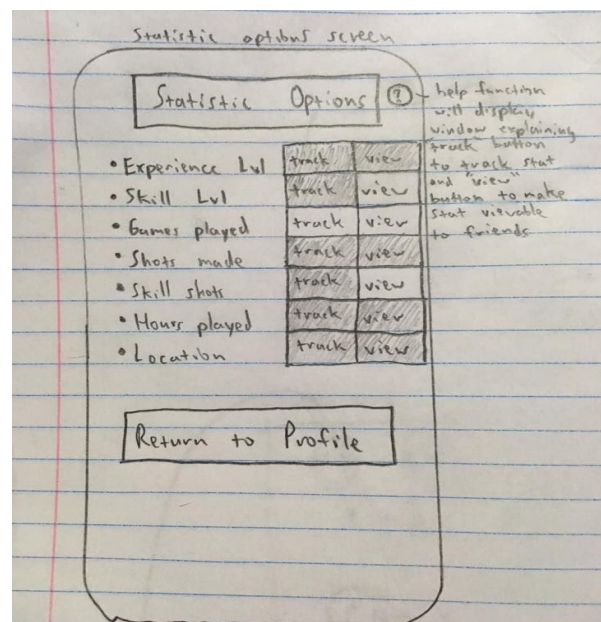


Fig 3.b

This screen allows the user change which statistics are tracked and made public.

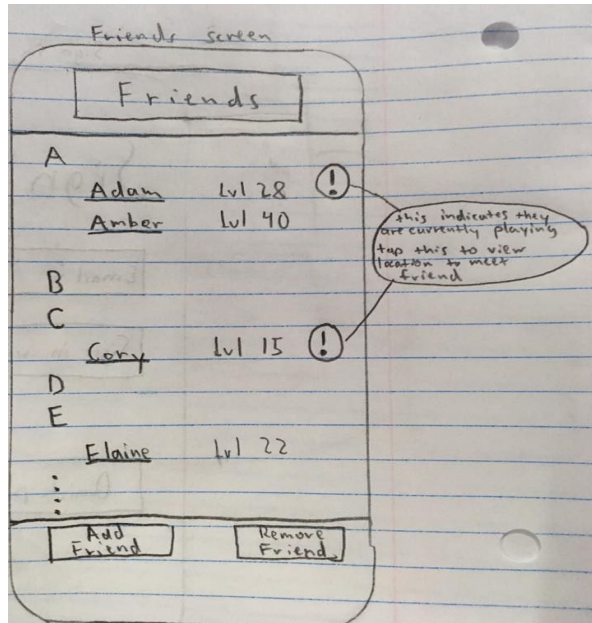


Fig 3.c

This is the friends screen used to view saved friends' statistics and playing location (if the friend has used the "broadcast location" feature)

4. Concept 3: Landscape View

4.1 Concept 3 summary

The landscape view concept makes the poolShark app viewable from a landscape perspective. This concept would be developed to establish the viewing perspective that offers the best user experience. As such, it does not offer unique features aside from viewing perspective, and is meant to be combined with concept 1 or 2 if it is found to provide a better user experience.

4.2 Concept 3 features

- Landscape view
 - Displays the app from a landscape perspective
- Tutorial
 - A tutorial screen is demonstrated in this concept and may be applied to concept

4.3 Concept 3 sketches

*the following sketches highlight the unique viewing perspective of concept 3

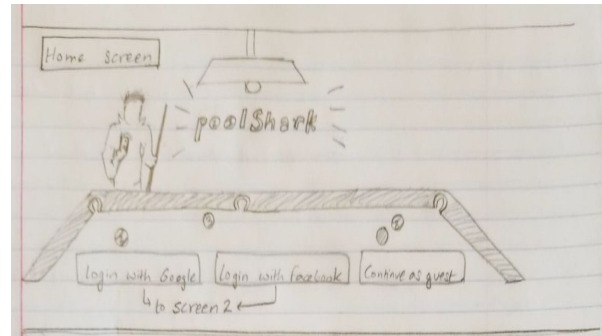


Fig 4.a

This is the first screen encountered in the app (displayed in landscape view), allowing the user to login (using different methods) or continue without logging in as a guest

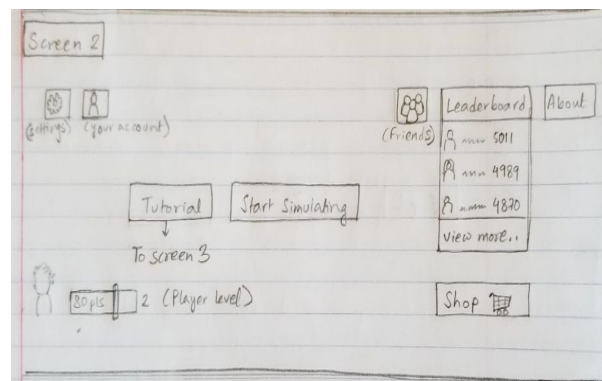


Fig 4.b

This is the main menu screen (screen 2), displayed in landscape view. This view may allow more objects to select on the screen, leading to a more efficient interface.

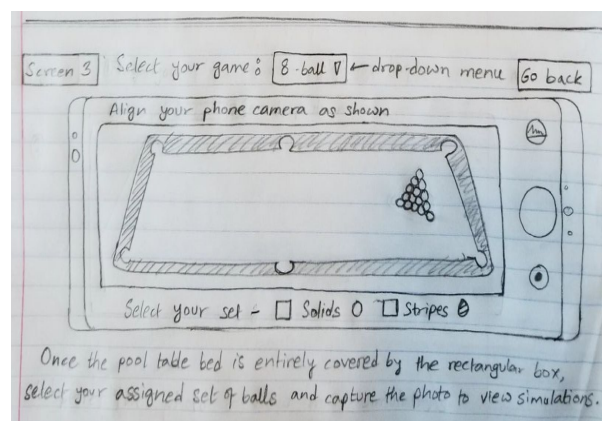


Fig 4.c

This is the first screen of the tutorial, displayed in landscape view. The tutorial will walk the user through all the steps of using the poolShark app, starting with the initial set-up picture.

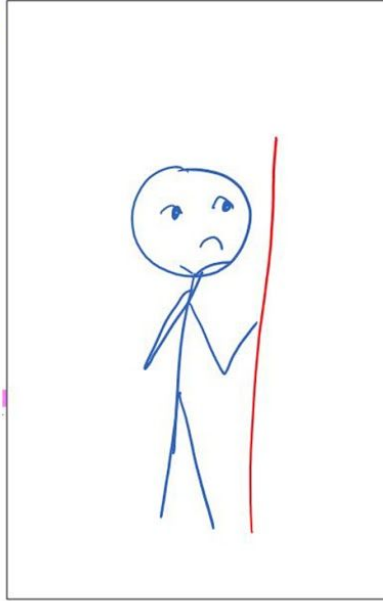
5. Storyboard of Concept 2

1



Player is playing pool and prepares to take a shot and then realizes they are unsure about it.

2



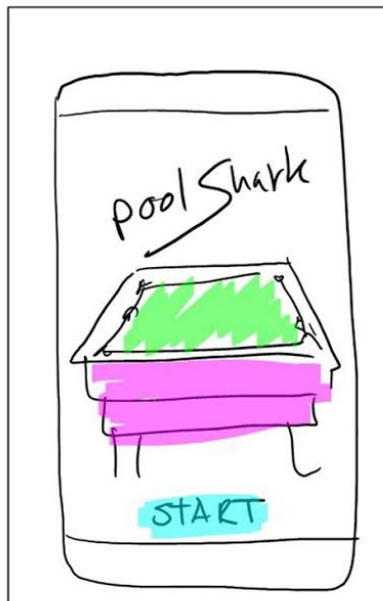
Player is confused and wants to know how they can approach this next shot.

3

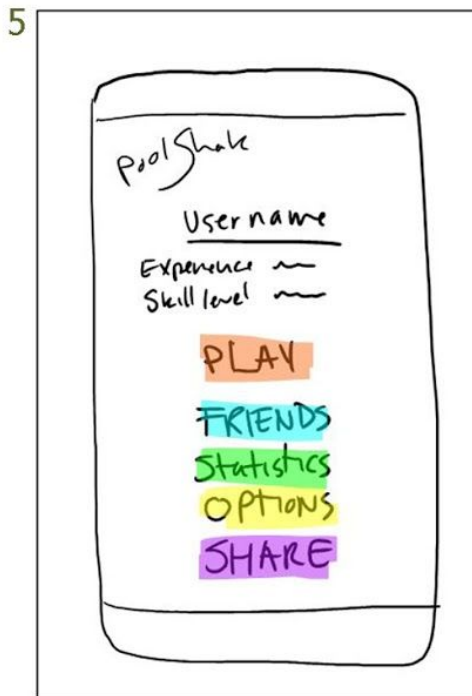


Player opens the poolShark app to seek help.

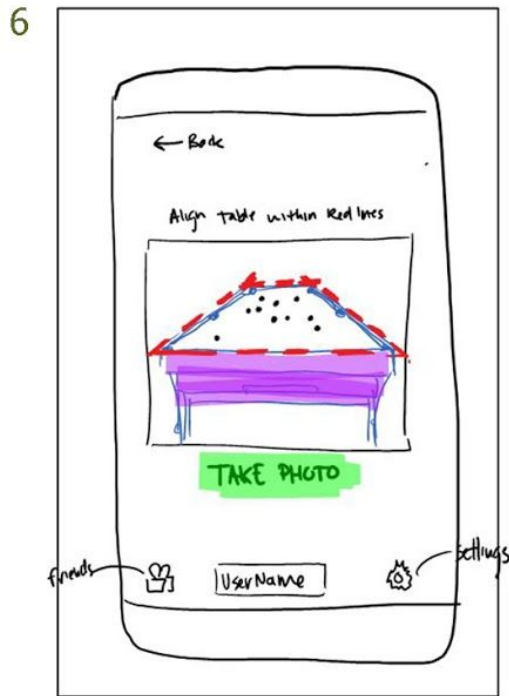
4



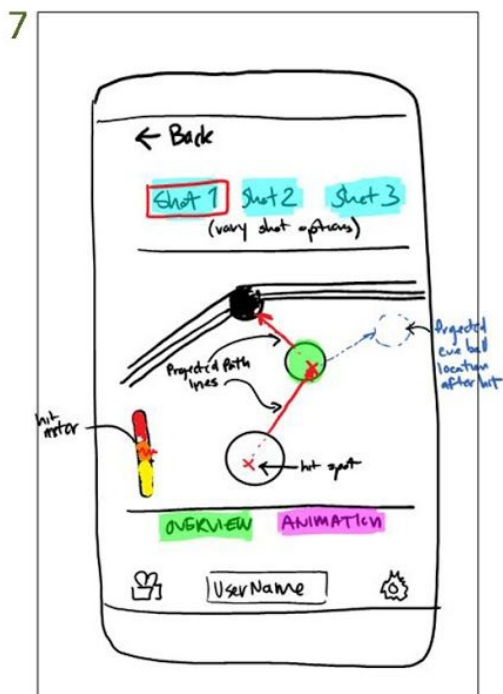
They are greeted with this screen showing them the app they are using.



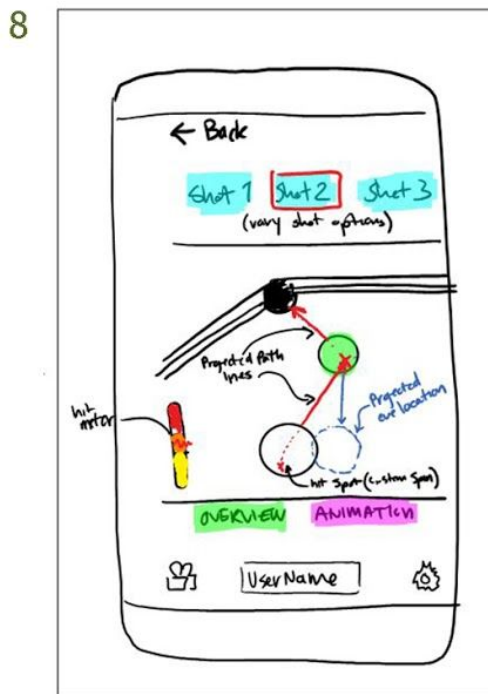
The main menu screen displays the options they can make for this app, in this case, they want to use it to find the next best shot.



The app prompts them to take a photo at this angle, staying within the red lines. This is done to be used to calculate the ball locations. Accessible friends and settings icons are available.

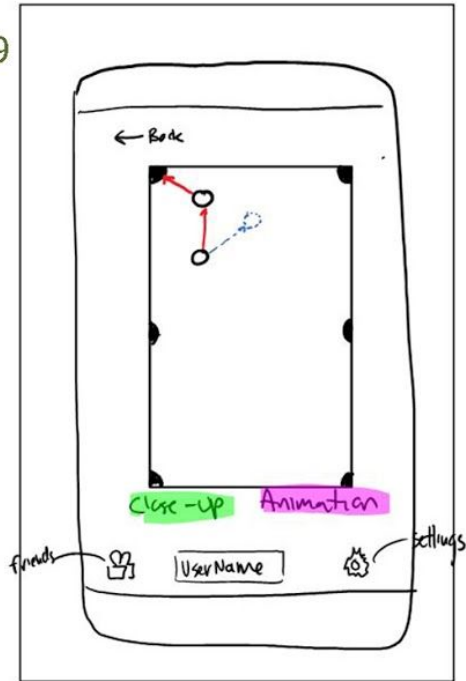


The app calculates up to three shots, and displays hit locations, potential cue ending spots and a hit meter. These help the player through the shot.



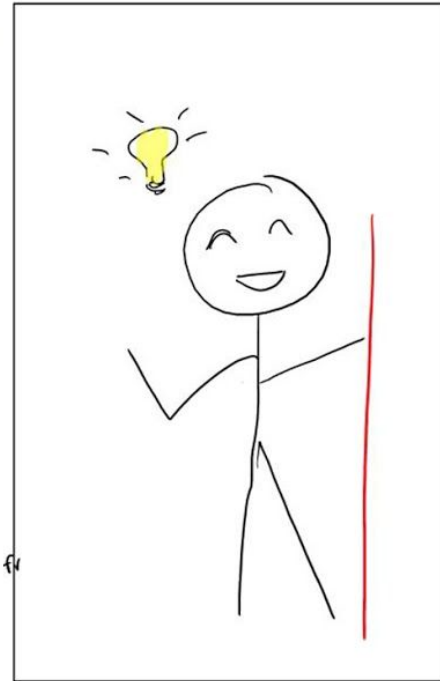
But the player doesn't like the results, they have the option to choose a different shot. This one uses a more advanced technique with different results.

9



A top down view is shown for reference. The player has the option to choose an animation to simulate the shot on how it should be done.

10



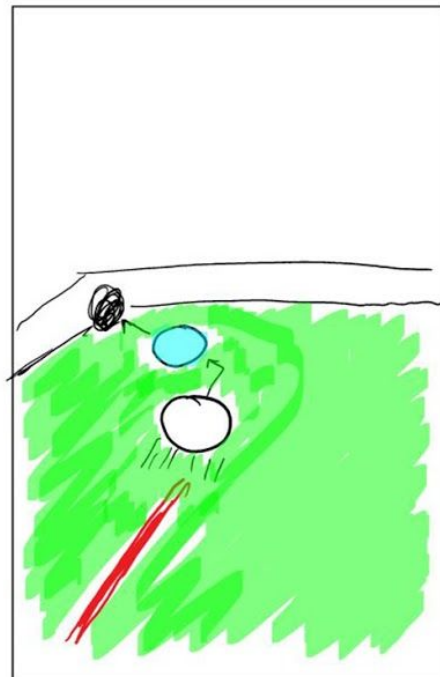
The player then gets the idea and uses it to take the next shot.

11



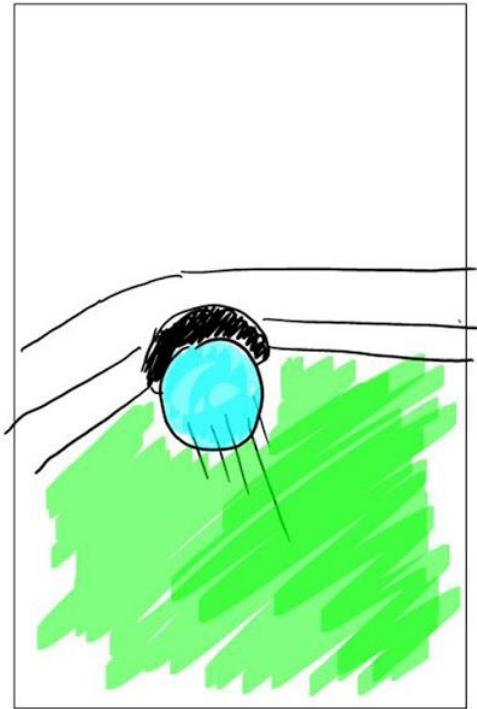
They prepare to take the next shot, based on what the app suggested.

12



They take the shot and simulates the app's suggestion perfectly.

13



Then the ball goes into the corner pocket, successfully making the shot with the help of the poolShark app.

6. Design Choices and Justifications

6.1 Design Choice 1: Selecting Social Concept

The team decided to choose concept 2, the social concept, to develop further because it is more in line with the target audience for the poolShark app (cue sports players of low to medium-high skill with the want to increase skill). The pro concept was decided to be too focused on highly skilled players and to have a too much of a learning curve for newer players. This went against the research results showing that the app would interest more casual players rather than players of high skill.

The team feels that the competitive aspect that the social concept provides will also be more beneficial than technicality for increasing motivation of the user to continue to use the app. This is shown in the research conducted by Team 18 by the interviewee's responses statistic tracking questions. This competitive aspect should also facilitate increasing skill, as interviewee's stated interest in playing against friends and keeping up with friends' skill levels.

6.2 Design Choice 2: Adding a 2-User Score Tracking and Coaching Mode

**note: this design choice is not depicted in the storyboard, but is to be included in the prototype*

A mode for use in a cue sports game with 2 players is a natural addition to the development of the social poolShark prototype. This mode would be instantiated at the beginning of the game and would keep track of the score and ball type of the players. It would also offer coaching via picture input at any point in the game. Although the coaching feature could be used every turn for every player, it will be recommended for use on shots where the player feels he or she requires help. This will help to not disrupt the flow of the game while still offering an enhanced cue sports playing experience with poolShark. Game disruption was one of the interviewee cited problems with the initial idea of the poolShark app.

6.3 Design Choice 3: Including Shot Techniques in Tutorial

**note: this design choice is not depicted in the storyboard, but is to be included in the prototype*

As the target audience includes players with low skill levels, including technique tutorials for basic and intermediate level shots (eg. bounce shots, shots with spin [english]) may be beneficial to the player. These would be simply explained without too much technicality. The tutorial would also cover basic application use and personalization.

6.4 Design Choice 4: Including Only Basic Statistic Information

Similarly to design choice 3, since the target audience is low level to medium skill level players, it would most fit this audience to provide only basic statistic tracking audience, with low technicality to maximize usability and relevance. This would also make the profile screen less cluttered and improve readability of the app.

6.5 Design Choice 5: Choosing Portrait View Instead of Landscape View

While the landscape view enhances the usability of certain menu screens in the app, it was decided against due to the fact that it was not ideal for in game simulations and operation. The nature of the movement of the balls for the simulations would indicate the use of a portrait view. Also, switching between the two views between menu and in game screens did not seem practical.