CU Psych Department FaceRace Requirements Document

1. Introduction

1.1 Purpose of Document

This is a Requirements Specification document for an overhaul project of the FaceRace mobile application for the Correll Lab in the University of Colorado Psychology Department. The Correll Lab does research into peoples' ability to recognize faces from racial groups outside of their own, and gather data for this research by way of the FaceRace mobile application. The overhaul will upgrade and improve the existing application to both make the existing UI/UX more pleasing for the end-users, and gamify the existing application to increase user retention and enjoyability. Additionally, we will make an attempt to streamline the process of gathering data from the app, to increase efficiency for the researchers. This document describes the scope, objectives and goal of the overhaul.

1.2 Project Summary

Project Name:	**CU Psychology Face Race**
Project Sponsor:	**Dr. Joshua Correll**
Project Engineers:	**Logan Mann** **Ryan Drew** **Yosan Russom** **Naif Alassaf**

1.3 Background

The CU FaceRace application allows researchers at the Correll lab to gather data on how effective any given user is at recognizing faces of other races, and track their ability to do this overtime, for use in their studies. Currently, the mobile app is functioning, however, there are difficulties with user retention, which prevent the researchers from reliably gathering data, as

users lose interest before completing the full training, designed to be used over a number of weeks, requiring the researchers to incentivise them with monetary compensation, or other means. Additionally, because the application has been developed by multiple capstone teams over the past few years, the codebase is fairly cryptic, some key features are missing, the UI is inconsistent/messy in places, etc. Our goal is to gamify the app to make it more fun for users, and improve some of these issues with the existing application.

Problems with the current application include

- **There is no way to recover an account when the user forgets their password**
- **There are tedious daily assessments/pre-assessments, likely decreasing daily active users**
- **Lack of point systems, leaderboards, achievements, etc. result in low user engagement**
- **The process of gathering data from the application is less streamlined for researchers than it could be**

Dr. Joshua Correll, our project sponsor, has told us that the key focus for our project will be gamifying the existing application, with improving data collection being a stretch goal.

1.4 Application Purpose

1.4.1 Users

Those who will primarily benefit from the new system and those who will be affected by the new system include:

Research Participants:

Upon improving the existing application, users will hopefully find the process of participating in the research fun and engaging, rather than a tedious experience of completing boring research tasks.

Researchers:

The new overhaul will ideally increase researchers' ability to gather good data, furthering their work and making them more efficient, worrying less about engaging users and more about doing their research.

2. Functional Objectives

2.1 High Priority

1. The overhauled application should contain a point system, which gives users points for completing recognition task objectives well, and fewer points for completing tasks suboptimally.
2. The application should contain a leaderboard which compares users and their progress to their peers, incentivizing competition among users.
3. The application should contain achievements to incentivize users to complete various objects, i.e. playing FaceRace for 7 days in a row, scoring over 1000 points, etc.
4. The overhaul should gamify existing tasks to be more fun to play, the specifics of which will be determined at a later stage by the team and the sponsor.

2.2 Medium Priority

1. The UI should be overhauled to make pages cleaner and more visually appealing
2. Functionality should be added to recover a user account when they have forgotten their password.

3. Non-Functional Objectives

3.1 Reliability

- The application should always be up in the event a user wishes to complete their assessments

3.2 Usability

- A user should be able to immediately create an account and begin doing assessments, without any previous training or experience.

3.3 Seamless Integration

- The overhaul should interface with the existing PostgreSQL database, and should not interfere with ongoing data collections and existing user accounts, progress, etc.

4. Use Cases

4.1 Use Case Descriptions (for selected cases)

Reset User Password

Use Case Name:	**Reset User Password**
Summary:	**In order to recover a password the user has been locked out of, they must be able to answer a security question and reset their password.**
Basic Flow:	1. **The use case starts when a user indicates that he has forgotten his password.** 2. **The application requests his email.** 3. **The application requests a security question answer and a new password.** 4. **The application verifies the security question answer.** 5. **The application resets the user's password and allows him to login.**
Alternative Flows:	**Step :** **If email does not exist.** **Step 4:** **if the password is invalid the system requests that the user re-enter the password. When the user enters another password the use case continues with step 4 using the original username and new password.**
Extension Points:	**none**
Preconditions:	**The user is registered with a valid email.**
Postconditions:	**The user can now login with his new password.**

View Leaderboard

Use Case Name:	**View Leaderboard**
Summary:	**To view their position relative to other users, a user should be able to view an application-wide leaderboard**
Basic Flow:	**1. The use case starts when the user opens the leaderboard page.** **2. The application gathers other users' point values, usernames, etc.** **3. This data is displayed in a table with the current user's position highlighted relative to their peers.**
Alternative Flows:	**● Step 1. If the user is not logged in when they go to this page, we reroute them to login page.**
Preconditions:	**User must be logged in**
Postconditions:	**The user is able to view his position relative to other users in the app, in terms of points obtained.**

Change Training Race

Use Case Name:	**Change Training Race**
Summary:	**This use case allows a registered user to change the race they wish to train on.**

Basic Flow:	**1. The use case starts when a user hits the "Change Training Race" button in the settings page.** **2. The application displays a dropdown menu with all the possible races to train on.** **3. The user selects the race they want and presses confirm.** **4. The application changes the user's training race and displays a success message.**
Alternative Flows:	**none**
Preconditions:	**The user is logged in.**
Postconditions:	**The user can now train on their newly selected race.**

Play Minigame

Use Case Name:	**Play minigame**
Summary:	**This use case allows a logged in user to play one of many gamified minigames (specific games to be determined).**

Basic Flow:	1. **The use case starts on the home screen, when the user indicates they want to train.** 2. **The home screen displays a list of minigames that the user can select from.** 3. **The user chooses a minigame to play.** 4. **The application loads the selected minigame, point data, faces, etc.** 5. **The user can now play the game.**
Preconditions:	**The user is logged in.**
Postconditions:	**The user is playing the selected minigame.**