CMPT 275

"Getting Started" Tutorial

By Team X

Project Group #10

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Project Website
https://sites.google.com/view/blackbox210

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0. Revision History

Revision	Status	Date	By
1.0	Template creation	November 20th, 2017	Jerry
1.1	Addition of introduction	November 22th, 2017	All
1.2	Addition of tutorial information	November 23rd, 2017	All
1.3	Added Tutorial Images	November 26th, 2017	All
1.4	Final Detailing	November 30th, 2017	All

Table 1: Revision History

1. Introduction to Personal Emotion Trainer (PET)

The Personal Emotion Trainer is an application design for children diagnosed with low to mid half of the Autism Spectrum Disorder. The application is a behavioral training game to teach for autistic patients about the basics of facial expressions and emotions to help develop social cognition. The goal is to help trains patients with autism on how to recognize different expression such as happy, sad, or anger to help them comprehend social behavior. In the long run this will help develop better relationships with family and friends.

The premise of this application is based on a therapy used in the field called emotion cards. Emotion cards are cards with faces depicting different expressions. Often the subjects are asked to determine what the faces and expression are representing which emotions. Similarly, P.E.T. features a set of training questions that will ask the player to determine what emotions they recognize. There are 12 emotions categories which makes up the questions and the app will ask the player to learn and understand these emotions.

The purpose of this document is to provide introduction to the basic usage of the application. Included tutorials will showcase how to navigate, signup, play and review progress when using the P.E.T.

2. What You Can Do with PET

There are three main gameplay modes in PET, the main set of questions, the question bank mode which contains user populated questions, and the Facial Fun mode which uses a advance emotion recognition algorithm provided by Affectiva to test player's facial cognition abilities.

The core gameplay mechanics consists of multiple choice question where an image of a situation is shown. The player will have to recognize the facial expressions and answer the question with the correct emotion card. P.E.T. also allows for players to create their own questions with their own pictures, either from the camera or the photo library. The user created questions are stored in the Question Bank and shared globally with other players using the app. These questions will play out similarly to the main questions. The last gameplay mode Facial Fun involves the camera and the Affectiva emotion recognition SDK. Questions will ask users to replicate emotion shown by an image and will use the emotion recognition software to measure the attempt and a response will be given to the player. A score will be given on how accurate the player is able to replicate the emotion.

Gameplay data would be sent to a remote database linked to individual user account for further analysis. This would allow players to keep track of their progress in social cognition. You can review your own statistics on which emotions you got right or which ones you got wrong.

3. Tutorial: User Authentication

The first thing you will see upon opening the app is the login screen. Otherwise you will have to create an account by clicking **Sign Up**. If you have an account, you can go ahead and enter the email and password that you created and then hit the **Login** button.
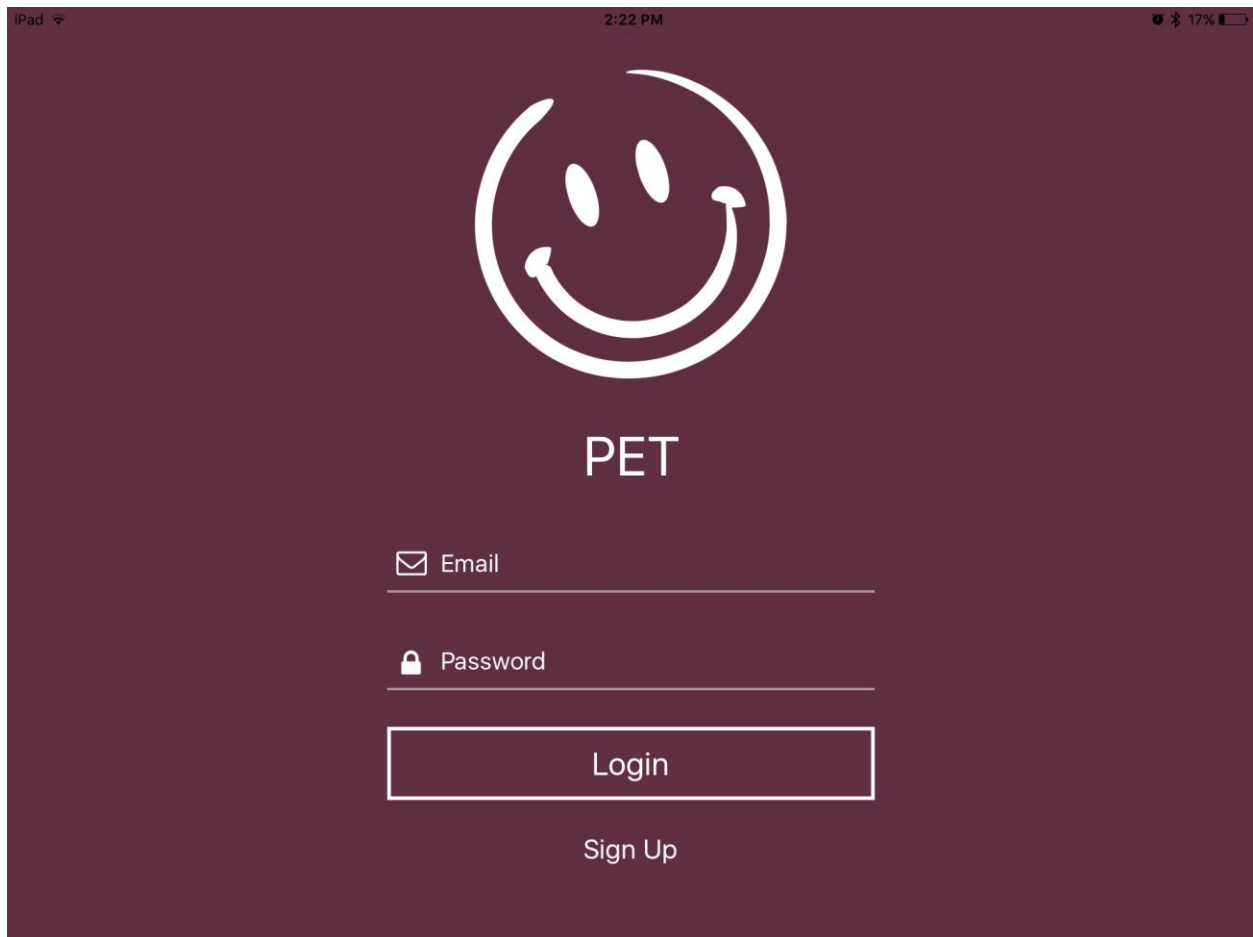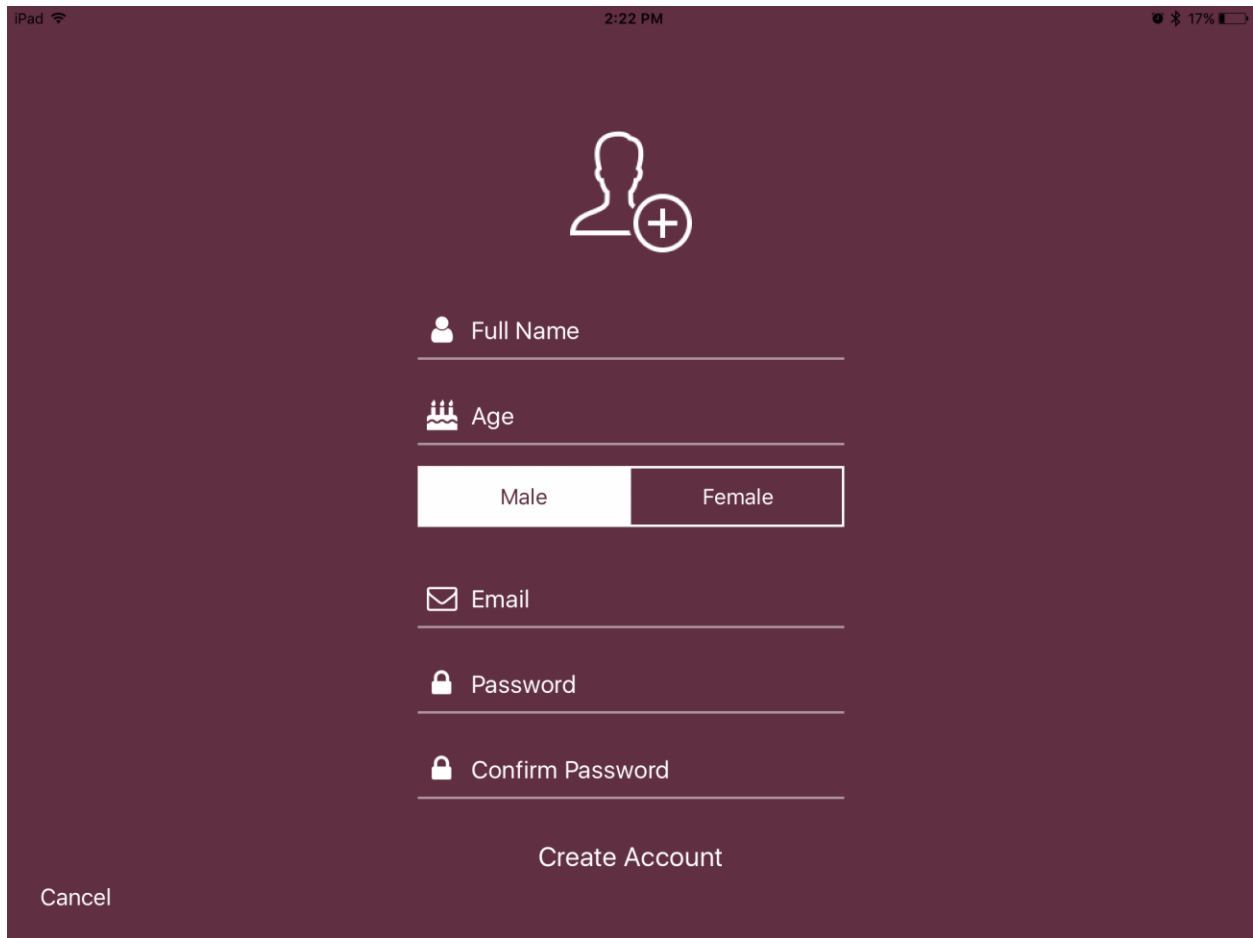

Figure 1: Login

3.1 Create an Account

The create account page requires you to enter in some basic user information such as the user's full name, age, and gender. The user information will remain anonymous and will only be used anonymously for statistical purposes. A valid email address and a password is also needed. These two items will be needed to login to the app for user authentication. Once all the fields are complete then you can click **Create Account**, which will take you to the main menu.

Figure 2: Account Creation

4. Tutorial: Main Menu

After Login, you are able to navigate through different options in the main menu.

- **Play** - You can begin your training with the P.E.T.
- **Tutorial** - An slideshow tutorial of how to play the game
- **Settings** – View statistics, edit account information, and reset gameplay progress
- **Question Manager** - You can manage, add, and edit your own questions & images

If you decide to switch users, you can simply **logout** to the login screen.
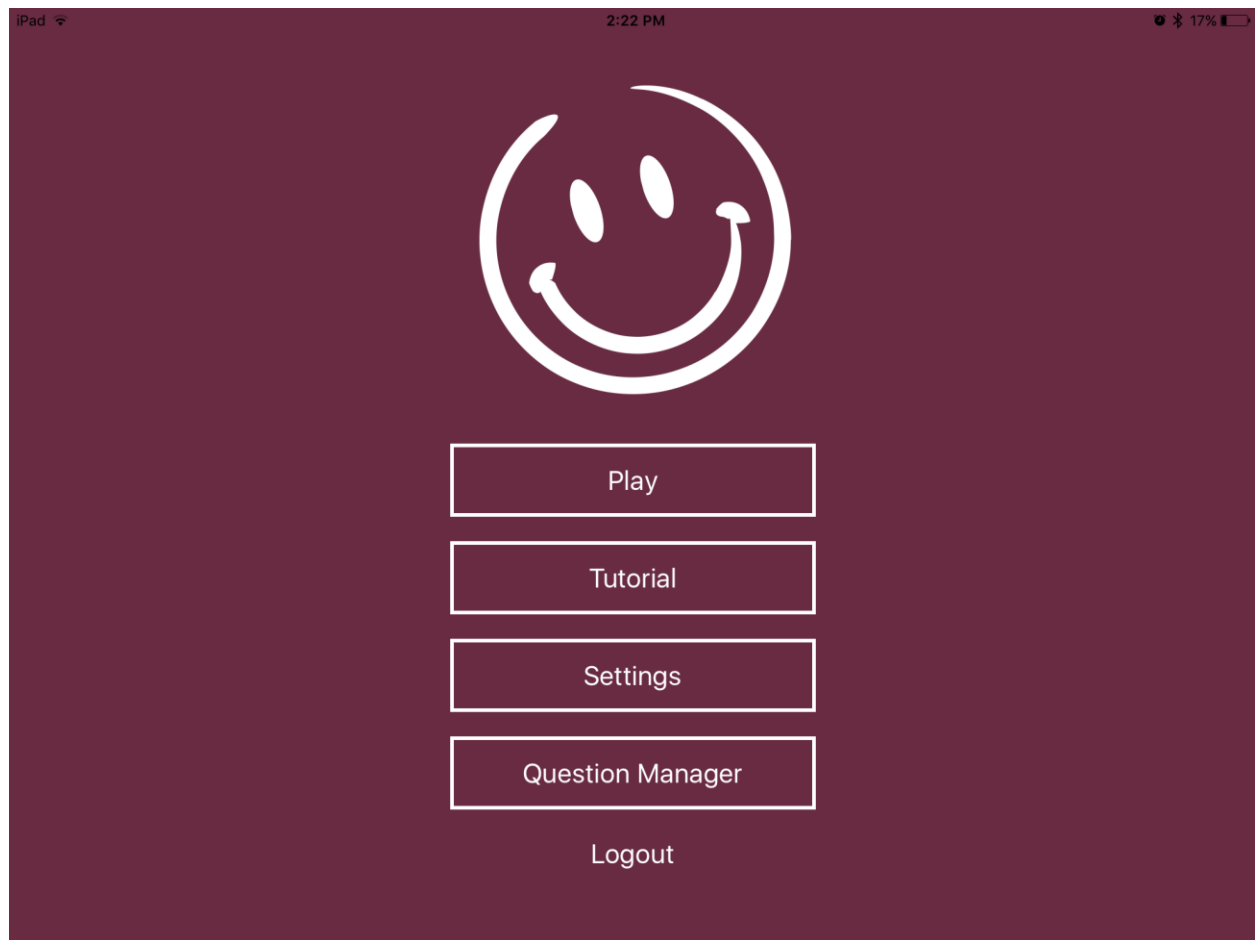

Figure 3: Main Menu

5. Tutorial: Game Modes

The trainer provides 3 categories for gameplay
- Original Questions
- Question Bank
- Facial Fun

5.1 Main Gameplay

The trainer will display an image on the main canvas followed by a prompt. The goal is to answer the question "How does Blossom feel?". You are able to select one of four answers. One of the answers is correct.

In the event that you select the wrong answer, that specific answer will be greyed out and you will be able to select again. In the event that you cannot answer the question, you can hit **skip** to try a different question. In this particular question, it is seen that Blossom looks sad and one of choices is indeed sad!
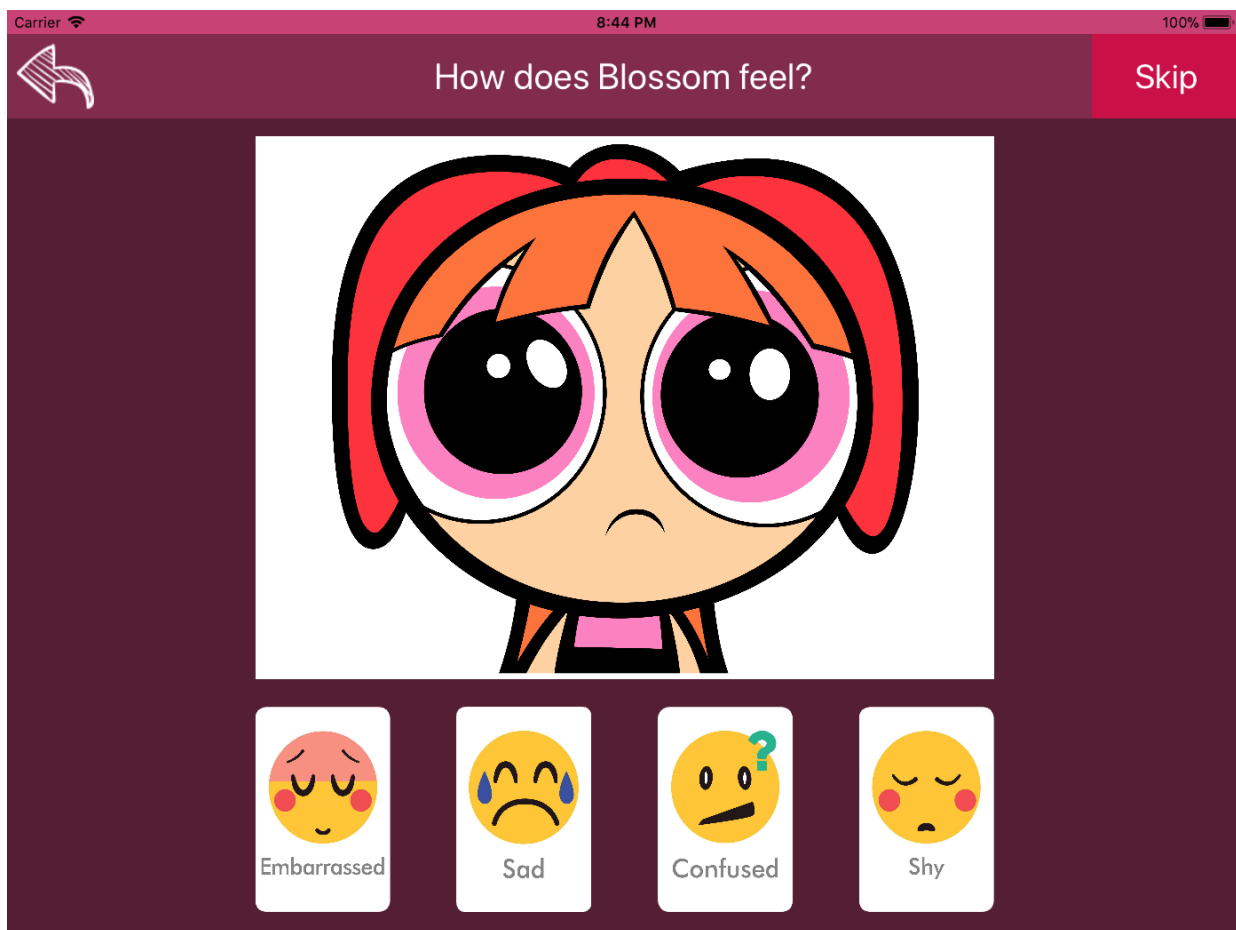

Figure 4: Example Gameplay

5.3 Question Bank/Global Playlist

With the questions you have created with the Question Maker, you can play them by clicking the **Question Bank** option.

This game mode will shuffle your stored custom questions and you will be presented with a custom level with your shuffled questions.
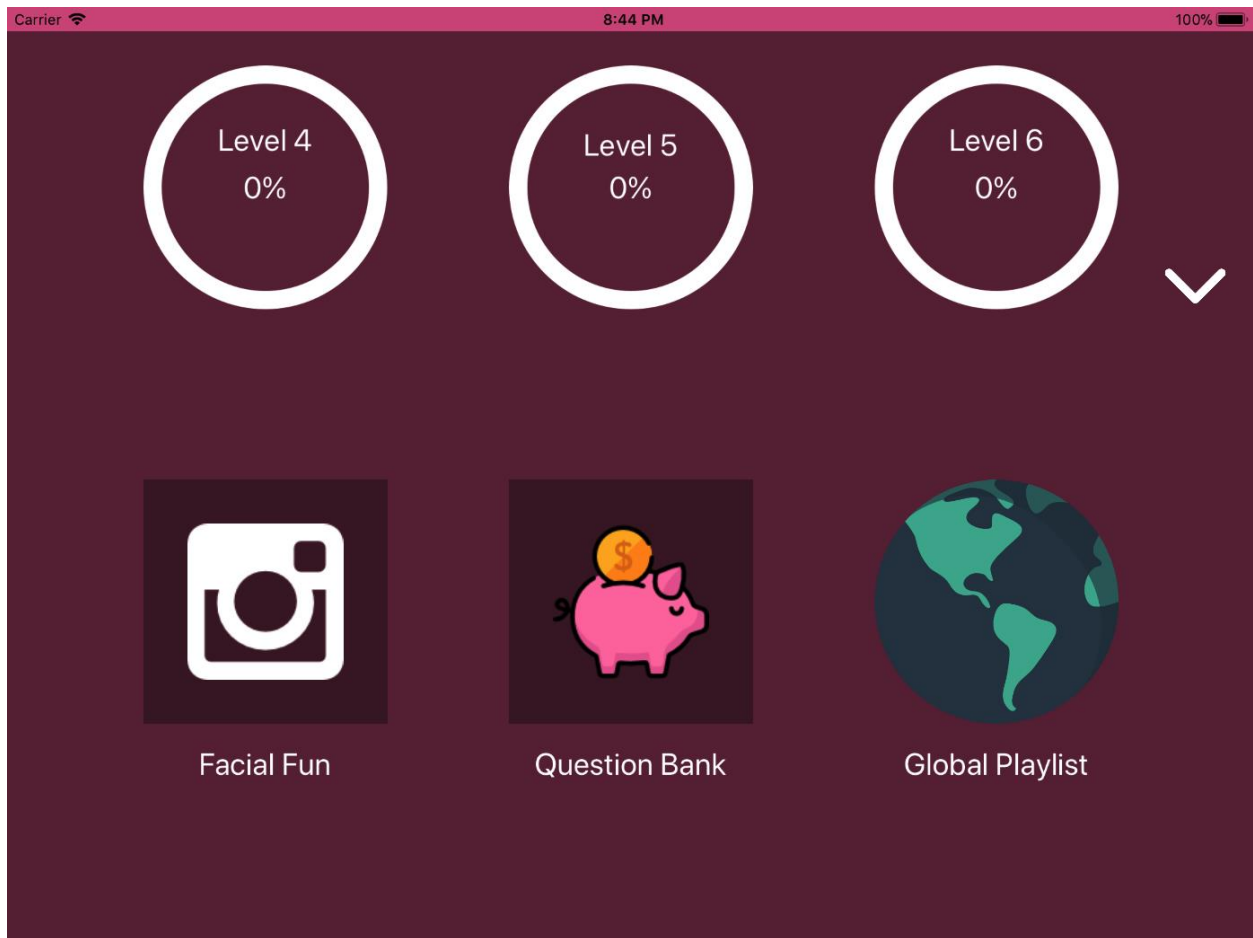

Figure 6: Level Selection Page

5.3.1 Create a Question

You can create your own quiz questions using the Question Maker with these following steps

1) Select an image from your image gallery or camera
2) Enter a Question Message
3) Select an emotion from the Emotion Bank that is associated to the image
4) Hit Create!

All your custom questions will be stored online and you can play them using the **Question Bank** in the game mode selection..
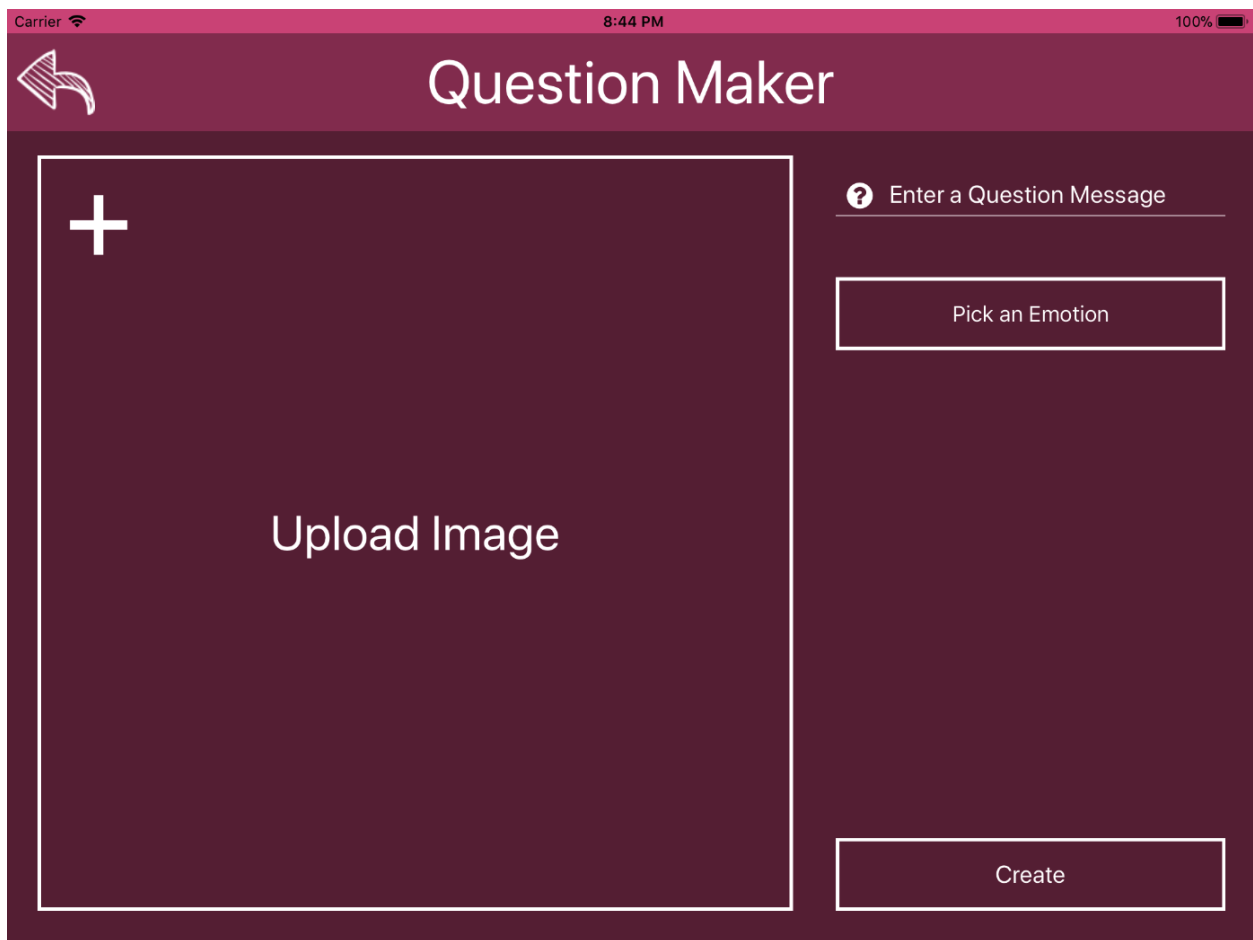

Figure 5: Custom Question Creation

5.4 Facial Fun

The Facial Fun game mode allows you to play with the camera. You are displayed an emotion on the left and you will replicate that same emotion using the camera displayed on the right. To pass the level, the PET will want a score of at least 50%.

In **Figure 7**, our user is attempting to replicate the emotion happy, with a score of 59%.

Figure 7: Facial Fun Gameplay

6. User Statistics

Under the settings in the main menu, users have access to their statistics for the game modes. This features tells the user how many emotions they have gotten wrong. This can help parents and caretakers view the child's progress and see if there are any specific emotions they are having trouble recognizing.
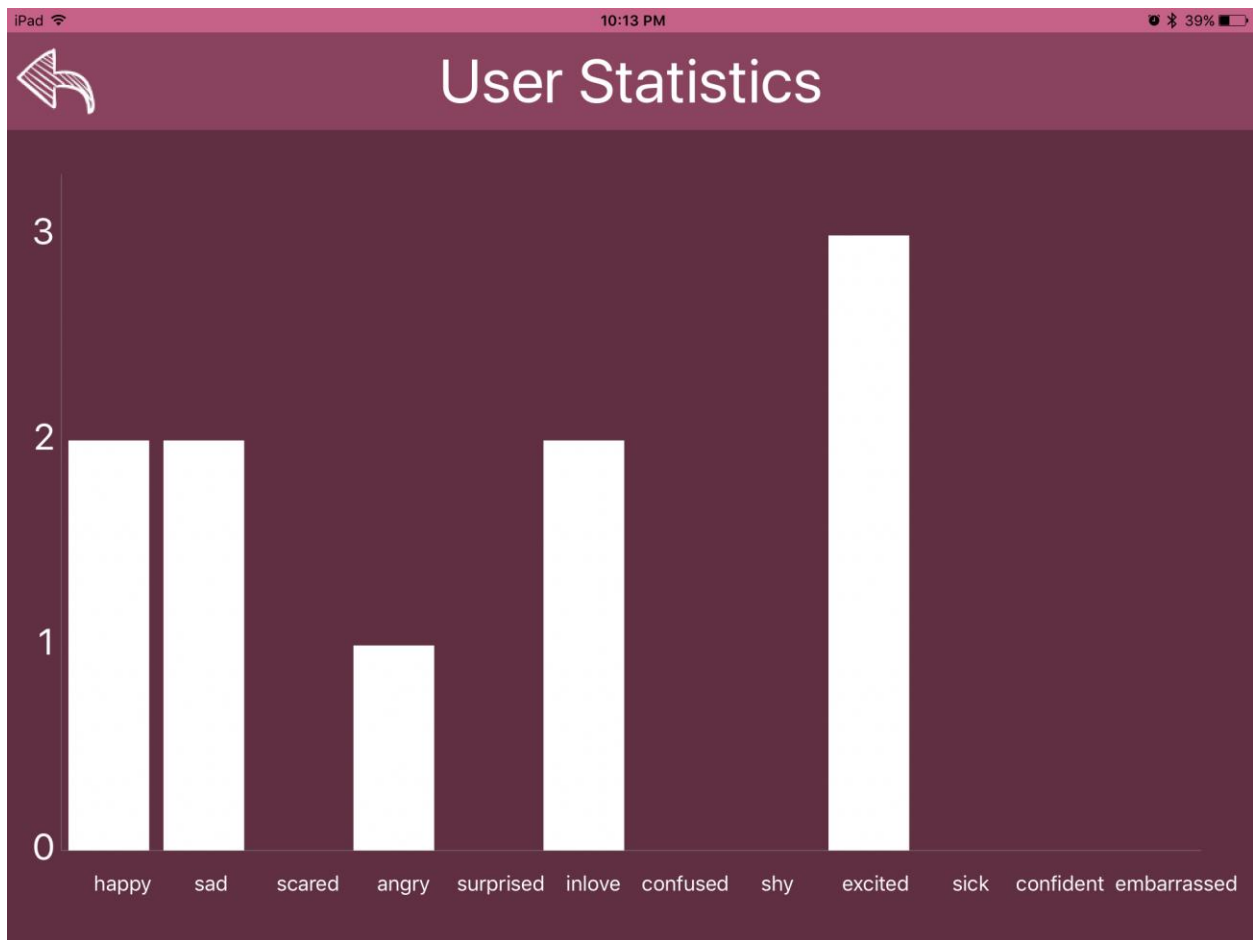

Figure 8: User Statistics

7. Global Statistics

To access global statistics, people can access the webpage sfu.ca/~ijovasev where they can view how many emotions *all* users have gotten wrong. The idea of this feature is to allow medical researchers a place to view which emotions ASD patients are having a difficult time recognizing, and be able to identify if there are any patterns.
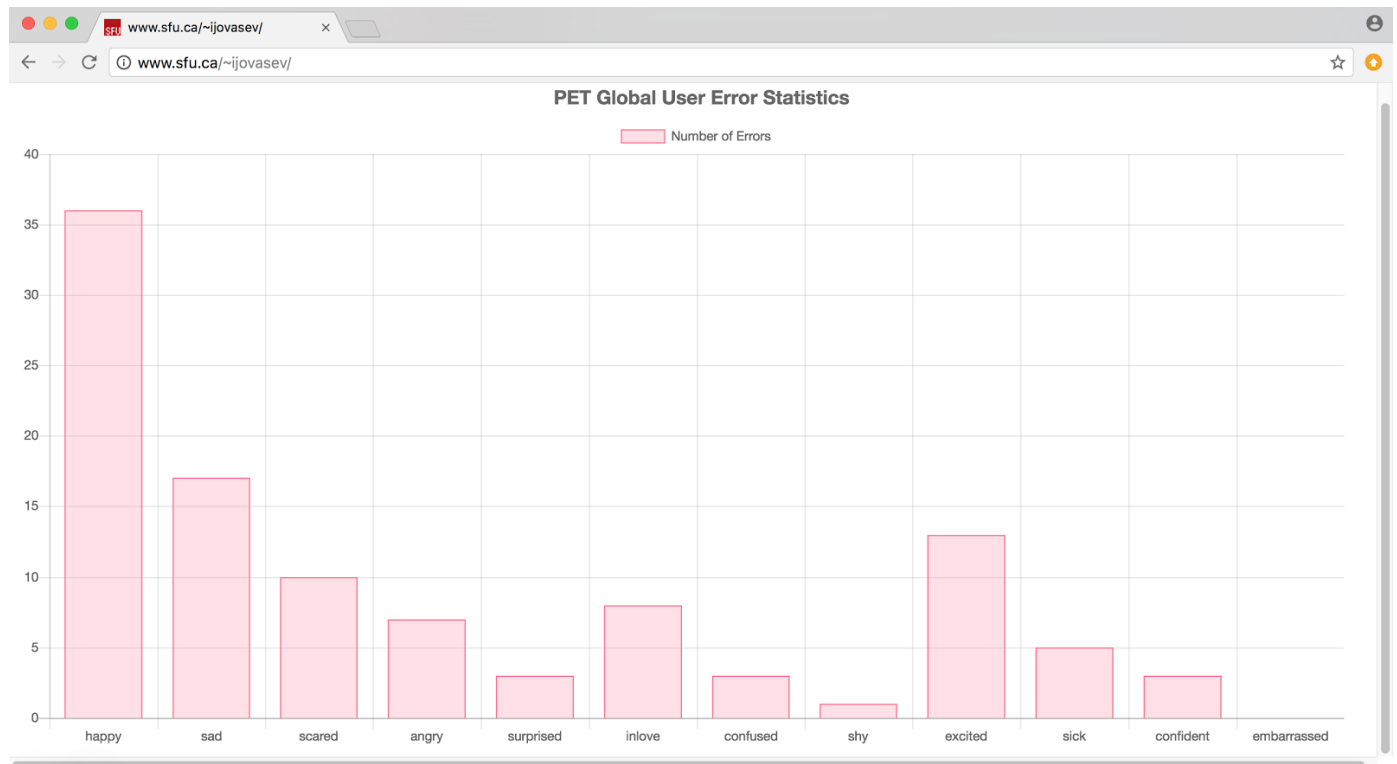

Figure 9: Global Statistics Webpage