

CS 4485 Spring 2024  
UTD CS Project  
**‘SocialPlay: Workout Challenge’**  
**User’s Manual**

**Team #: 48**

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## 1. How to install the system

Clone the project.

```
$ git clone https://github.com/boyperfer/social-flappy-bird.git
```

Or

Download the zip folder and unzip it.

## 2. How to start the system

To play the game, you need to run two programs:

1) Sign-up / Leaderboard system 2) Play game

### 1) Sign-up / Leaderboard system

There are three different methods to install the system.

- **[Method 1: shell script file]**

Change the directory to 'social-flappy-bird'

```
$ cd social-flappy-bird
```

You can run the shell script in the root directory.

```
$ chmod u+x ./install.sh
```

```
$ ./install.sh
```

- **[Method 2: Using command]**

Change the directory to 'social-flappy-bird'

```
$ cd social-flappy-bird
```

Install dependencies (requires 'node' installed for 'npm' command)

```
$ npm install
```

Run the website on localhost:3000

```
$ npm start
```

- **[Method 3: direct access]**

To access the website directly, use <https://gamedemo123.netlify.app/>

### 2) Gameplay system

There are two different methods to install the system.

**[Method 1]**

You can run the shell script in the root directory.

```
$ chmod u+x ./playgame.sh
```

```
$ ./playgame.sh
```

## [Method 2]

Create a virtual environment

```
$ python -m venv venv
```

Activate the virtual environment

```
$ source venv/bin/activate
```

Install packages, requirements.txt

```
$ pip install -r requirements
```

Change the directory to the 'python' folder

```
$ cd python
```

Run the game

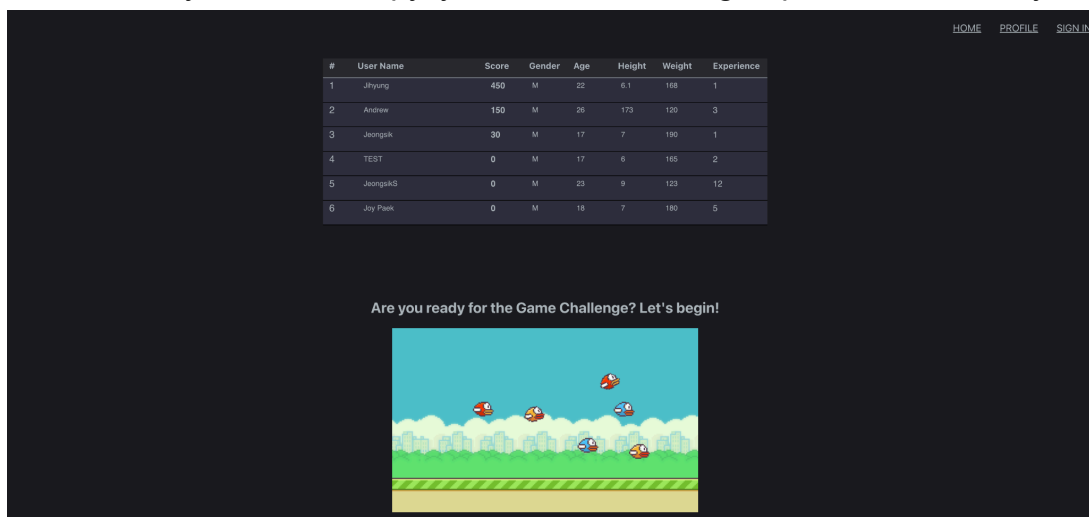
```
$ python birdgame.py
```

## 3. How to use the system

### 1) Sign-Up / Leaderboard system

You need an account to play the game. This is how to use the Sign-up / Leaderboard system.

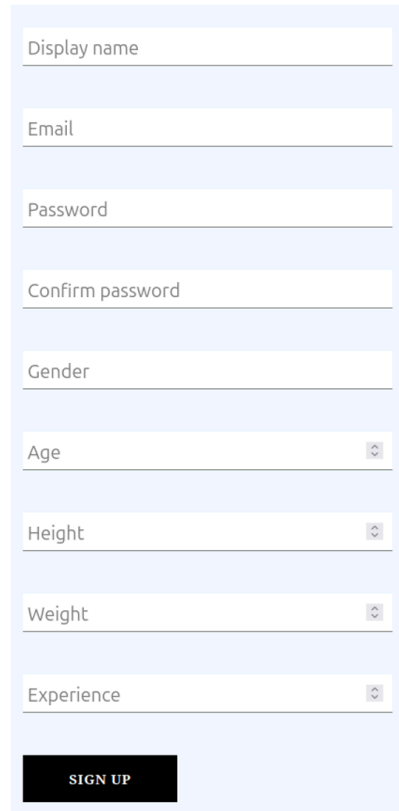
Once you run install.py, you will enter the Sign-up / Leaderboard system.



[Figure 1. Sign-up / Leaderboard system main menu]

- Press 'SIGN IN' on the top-right corner.
- If you don't have an account, enter your information in the 'Sign up' row on the right.

- c) If you already have an account, enter your email and password in the 'Sign in' row on the left.
- d) After you sign in, you can manage your "my page" and play the Flappybird game.

A vertical sign-up form with a light blue background. It contains several input fields: 'Display name', 'Email', 'Password', 'Confirm password', 'Gender', 'Age', 'Height', 'Weight', and 'Experience'. The 'Age', 'Height', 'Weight', and 'Experience' fields have small circular icons with arrows on their right sides, indicating they are dropdown menus. At the bottom of the form is a black button with the text 'SIGN UP' in white capital letters.

Display name

Email

Password

Confirm password

Gender

Age

Height

Weight

Experience

**SIGN UP**

[Figure 2. Sign Up Page]

Once you Sign up, you should follow the formats below:

- Password: a mixture of English and numbers, with a minimum length of 8 characters.
- Gender: M or W
- Age: Number
- Height: Number
- Weight: Number
- Workout Experience: Number

## 2) Gameplay system

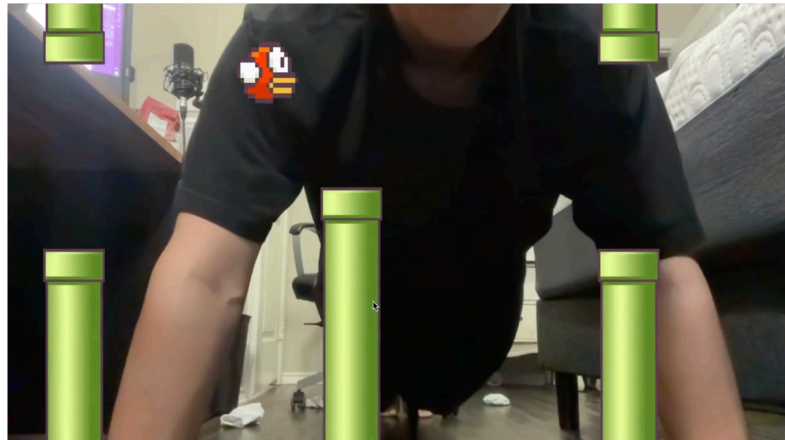
*(Note: You need a camera installed on your local laptop to activate the play button.)*

Once you run birdgame.py, you will enter the main menu.



[Figure 3. Gameplay - Main Menu]

- a) Press the 'LOG IN' button on the bottom-left of the main menu and enter the email and password that you signed up with.
- b) Press the 'OPTION' button, you can select the speed of the bird's left and right movement and the type of exercise.



[Figure 4. Game Play Screen]

- c) When you press the 'PLAY' button, check if you are logged in, and if you are, the game starts. The bird will follow your left shoulder, or

left heel, according to the option. Try to dodge as many pipes as possible by moving the bird up and down.

- d) Press 'PLAY AGAIN' or 'BACK' after the game is over to save the score, or to go back to the Main Menu.

### 3a. Input of Data and Commands

- The list of Input data from the user sign-up page includes:  
1) Height 2) Weight 3) Age 4) Gender 5) Exercise Experience
- The list of generated data from the game includes:  
1) Play Time 2) Level of Stage(speed of the game) 3) Distance of bird flew up and down 4) Distance of the bird flew from the start to the end 5) The number of games played

### 3b. Processing

$$\text{Score}_j = \text{PushUp}_j + \text{LegRaise}_j$$

$$\text{PushUp}_j = \left( \frac{\sum_{i=1}^m \text{PlayTime}_i \times \text{StageLevel}_i}{\sum_{i=k+1}^{n-k} \text{PlayTime}_i \times \text{StageLevel}_i} \right) \times \frac{n-2k}{m}$$

Where :

$j$ : User's name

$m$ : Number of plays by the  $j$

$n$ : Total number of plays

$k$ : 10% of  $n$ , indicating outliers

[Figure 5. How the user's score calculated]


- The score is calculated by summing the normalized scores of each game.
- These scores are used for the leaderboard and data analysis.

### 3c. Outputs

Your scores will be saved and shown on the Leaderboard page. You can share your results on Facebook.

#	User Name	Score	Gender	Age	Height	Weight	Experience
1	Chris	48	M	32	5.9	170	6
2	Hoang	41	M	37	5.8	150	5
3	James	37	M	33	6.1	170	2
4	Anna	36	F	35	5.5	140	6
5	Yvonne	28	F	23	5.5	130	5

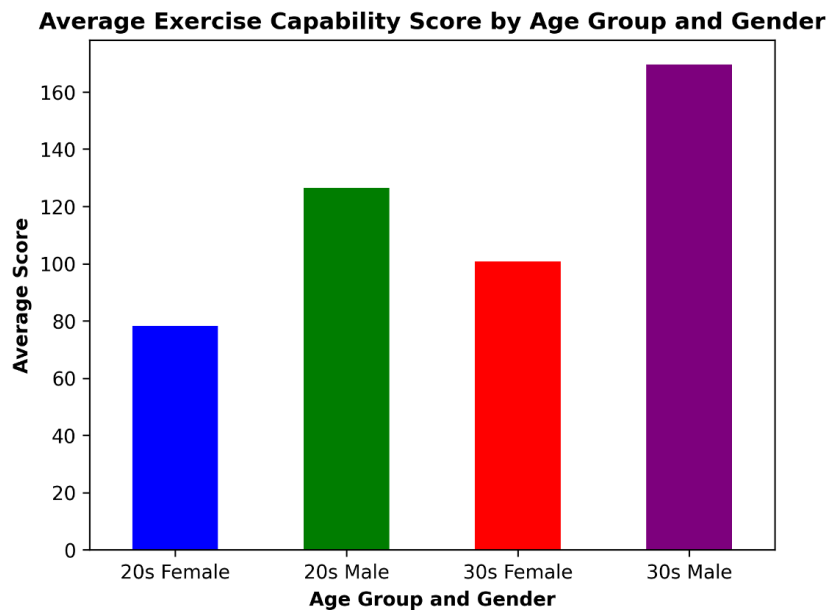
Name: hoang  
Email: hoang1@gmail.com  
Gender: M  
Age: 37  
Height: 5.8  
Weight: 150  
Experience: 5  
Score: 41



[Figure 6. Leader-board and sharing button]

We have analyzed scores into two different graphs: Bar Chart and Scatter plot

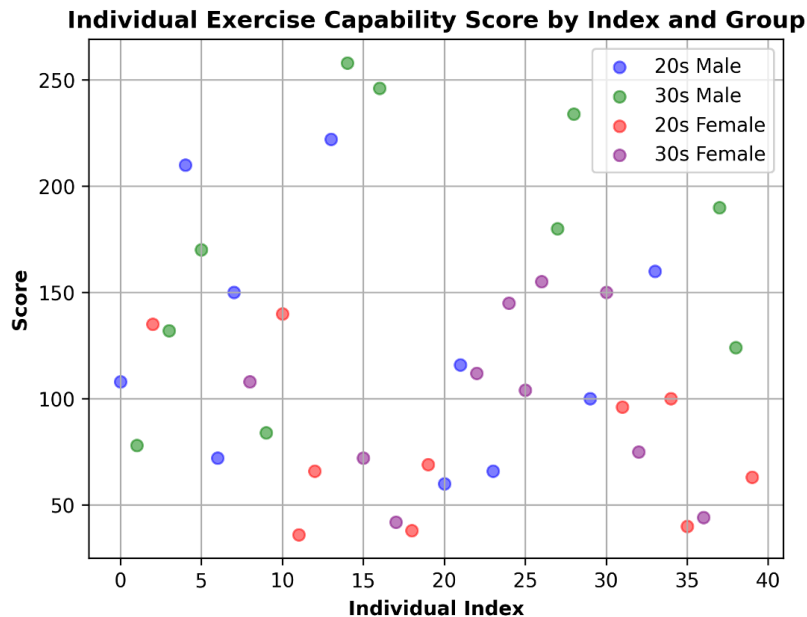
#### 1) Bar Chart



[Figure 7. Bar Chart illustrating the average exercise capability scores by age group and gender.]

Males in their 30s have to highest average exercise capability, which is 35% higher than that of males in their 20s.

## 2) Scatter Plot



[Figure 8. Scatter plot representing individual exercise capability scores.]

Some men in their 20s and women in their 20s and 30s outperform men in their 30s in exercise.

## 4. How to turn off the system.



[Figure 9. Main Page. You can Quit the game]

Press 'Quit' from the Main Menu to exit the game.