



# 3D MOBILE-APP BASED RECYCLING GAME

Presents by 



## CHAPTER

- Introduction
- Literature Reviews
- Project Design
- Implementation
- Testing
- Interview
- Evaluation
- Conclusion

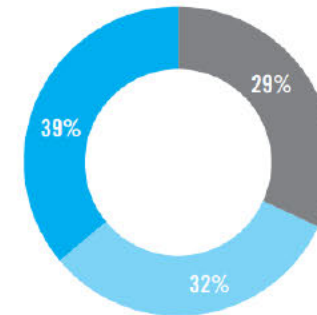


# INTRODUCTION

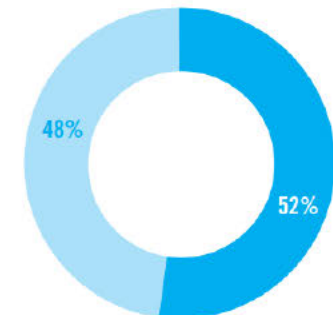
- The Problem?
  - Only a handful of recycling games exist commercially or on the internet.
- Solution?
  - To come up with a new solution, an attempt to developed a 3D mobile-app based game with the aim of promoting recycling more effectively.
- Aim
  - To design, develop and evaluate a 3D Mobile Recycling game to educate about the importance of recycling and promote it more effectively than other platforms.
- Objectives
  - Perform research by questionnaires and exist research before carry out the evaluation.
  - Decisive analyses and critical evaluation to achieve effective results for the report.

# LITERATURE REVIEWS

## Most Popular Mobile Game Genres



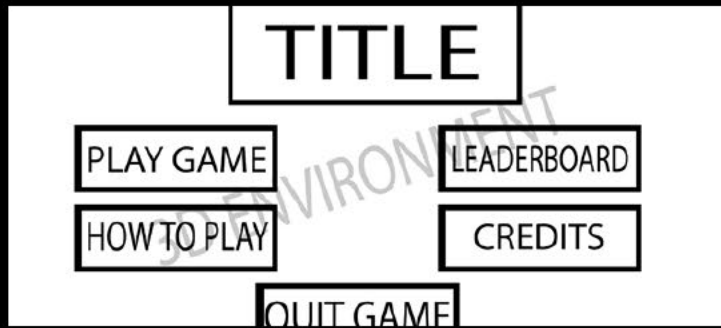
**AGE**  
of Game Players  
29% under 18 years  
32% 18-35 years  
39% 36+ years



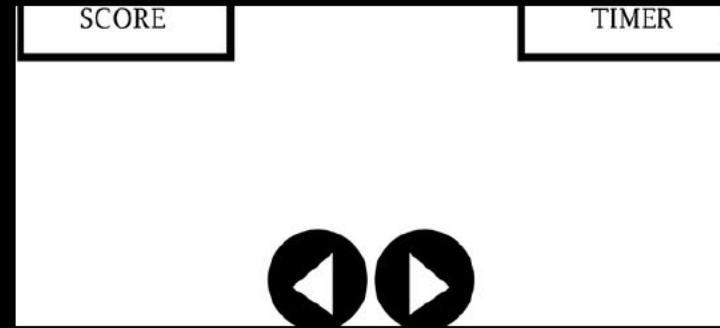
**GENDER**  
of Game Players  
52% male  
48% female



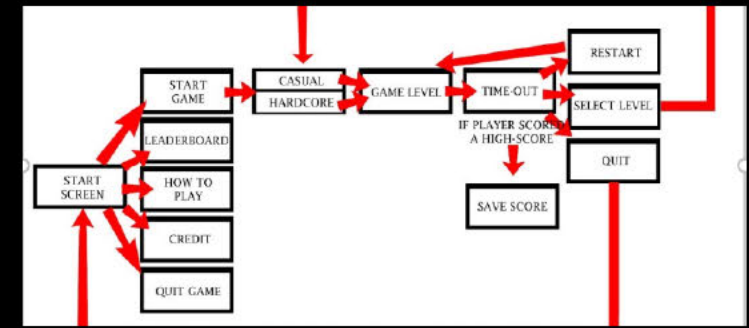
# THE DESIGN



Main Menu

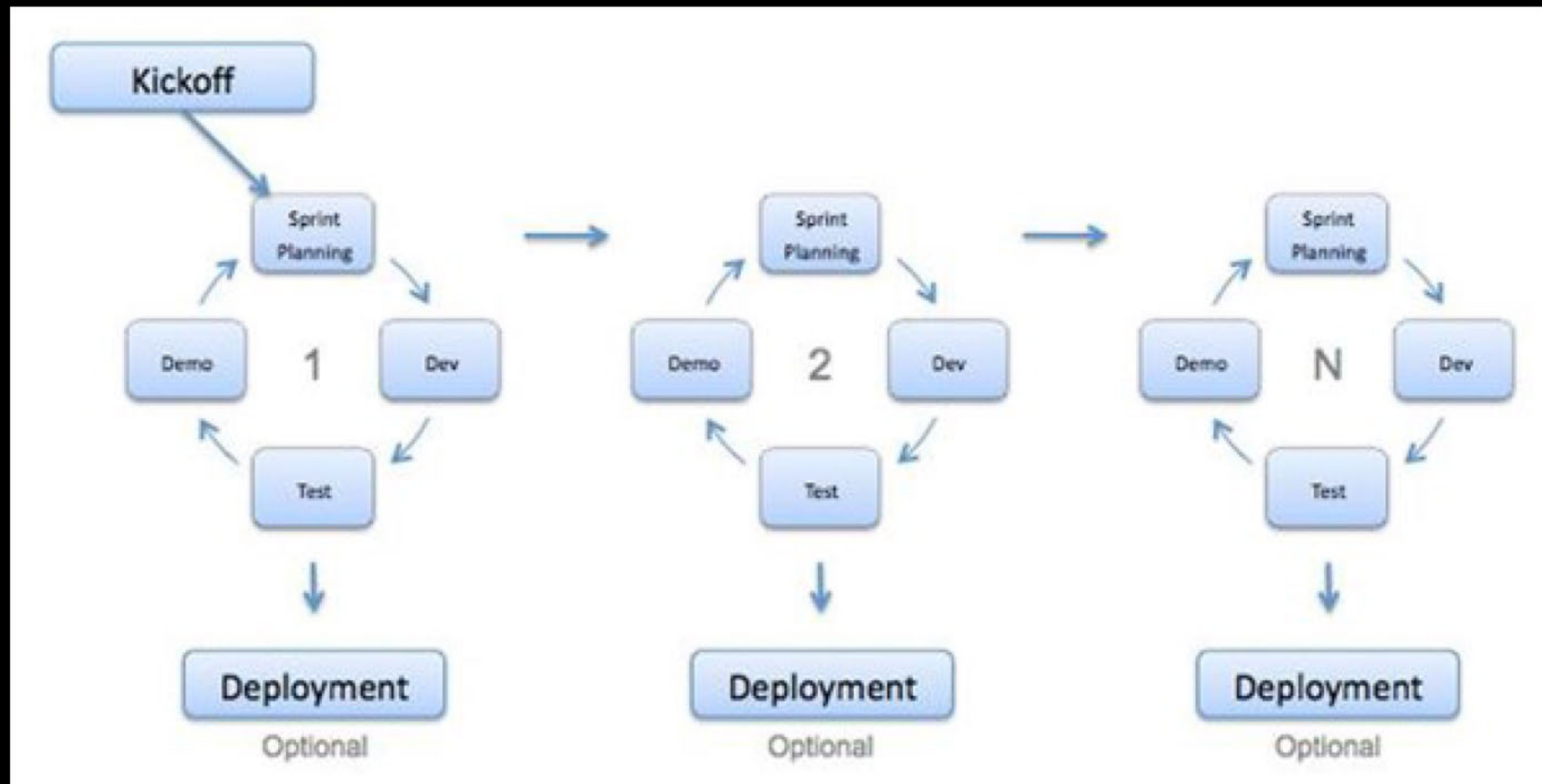


Gameplay



Game Progression Diagram

# METHODOLOGY



# IMPLEMENTATION







## TESTING

- Does the game compatible with the screen size in most of the smartphone devices?
- Are all the buttons in the game functioning properly?
- Are the controls working correctly?
- Does a new high score will be saved and it will display on the leaderboard?
- Is the loading of the game works probably?
- Is the random rubbish spawn generator is working correctly?
- Will the times Up menu pop out when the countdown reach to 0?
- Does a sound play when it is clicked?
- Will the score go to add or minus accord to the bin that the player is currently using and the rubbish that has just collected?



# INTERVIEW

- Find out how good the playability of this game is?
- To determine whether introducing recycling games on smartphones can promote recycling more effectively than other social medias?

## Questionnaire

1. On a scale of 1 – 5, where 1 is poor and 5 is great, how do you feel about the controls in this game?
- 1      2      3      4      5
2. How easy did you find when trying to collect the rubbish into the bin? If not, why?
- \_\_\_\_\_
3. Was it easy to distinct the rubbish as they are falling? (Circle only one answer)
- Very Hard  
Hard  
Fine  
Easy  
Very Easy
4. Was it easy to switch between the recycling bins, during the gameplay?
- Yes / No
5. To increase the challenge for this game, which of the following options would you say you enjoy the most?
- Increase the time.  
Increase the number of rubbish falling.  
Having a special rubbish to earn big points.  
Throwing rubbish from left and right, as well as falling from the top
6. By introducing leader board in the game, did it make the overall gameplay much more competitive? If not, why?
- \_\_\_\_\_

## Questionnaire

The following questions are answered before the participant have played the game....

1. How did you know about recycling?
- ☐ At School
  - ☐ Television Advertisement
  - ☐ Articles
  - ☐ Newspaper
  - ☐ Internet
  - ☐ Other: \_\_\_\_\_
2. Have you play any recycling game before?
- Yes / No
3. From a scale of 1 – 5, how would you say about yourself know recycling?
- 1      2      3      4      5
4. Which type of rubbishes goes into which recycling bin (please answer as the best you can):
- ☐ Brown Bin: \_\_\_\_\_
  - ☐ Blue Bin: \_\_\_\_\_
  - ☐ Green Bin: \_\_\_\_\_

The following questions are answered after the participant have played the game....

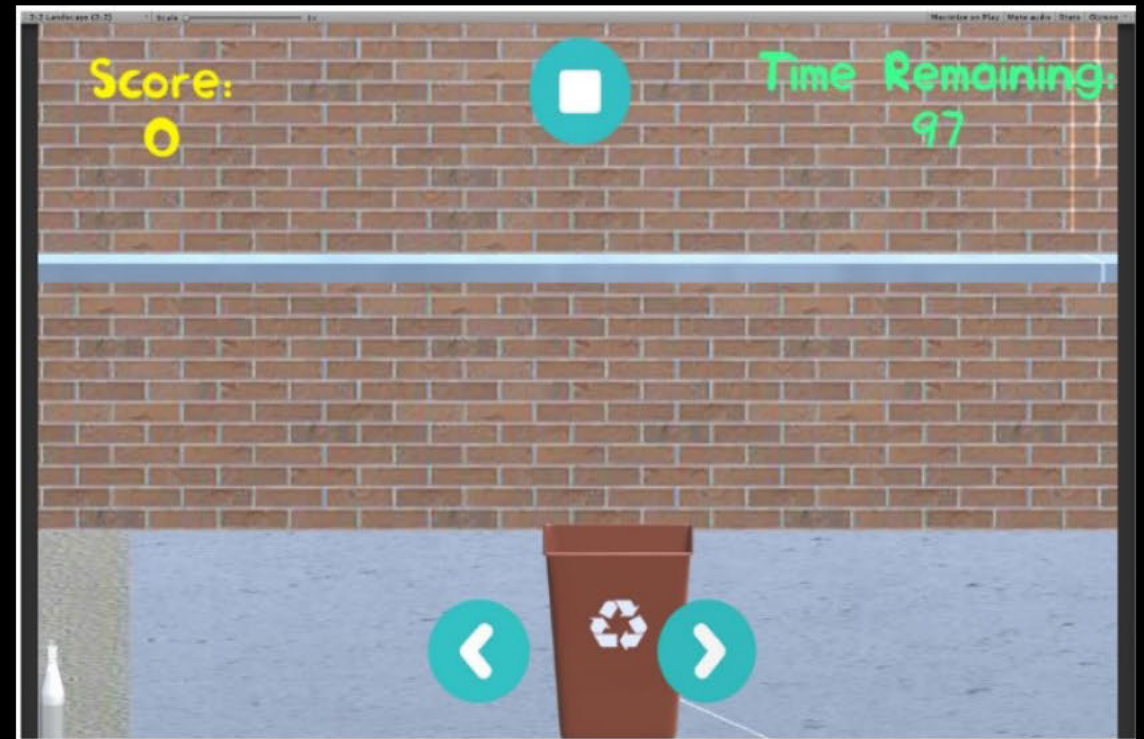
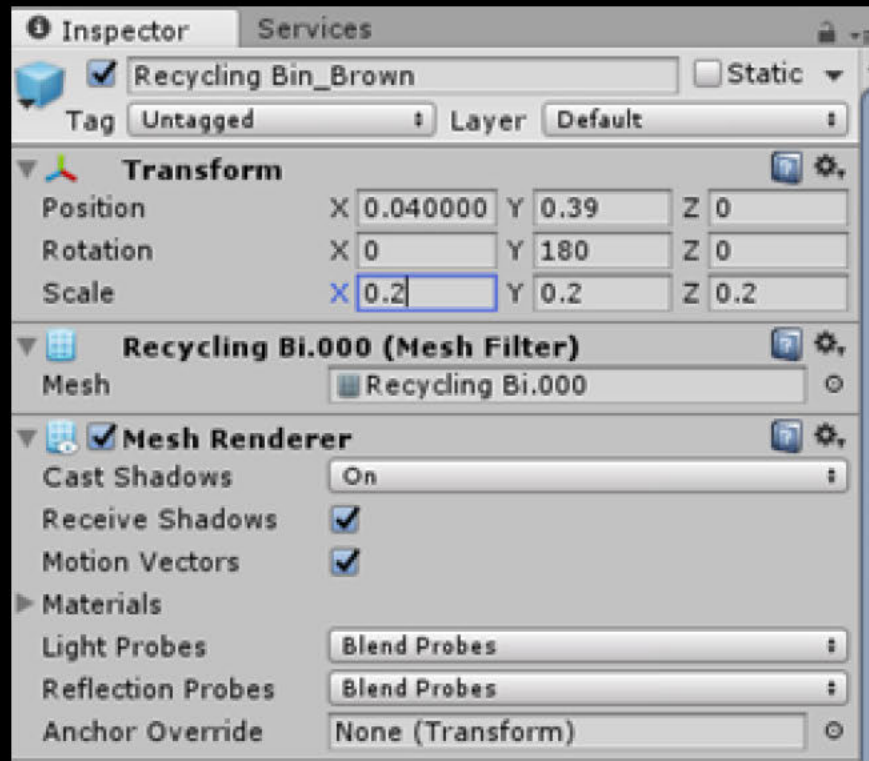
5. Which type of rubbishes goes into which recycling bin (please answer as the best you can):
- ☐ Brown Bin: \_\_\_\_\_
  - ☐ Blue Bin: \_\_\_\_\_
  - ☐ Green Bin: \_\_\_\_\_
6. After playing on the game, from a scale of 1 – 5, how well do you know about recycling now?
- 1      2      3      4      5
7. Did you feel that after playing on the recycling game, you understand recycling more than it is being taught at school, newspaper, television advertisement, etc.?
- Yes / No
8. Was overall of the game (mechanism, leaderboard, background music) encouraging you to try recycling more?
- Yes / No



## EVALUATION PART 1

- **Question 1**
  - 5 participants gave a score of 3 for the controls (Average)
- **Question 2**
  - Participant 4 has mentioned that “Rubbish keeps fall out of the bin” when trying to catch it.
- **Question 5**
  - There is a clash between having a special rubbish to earn big points and throwing rubbish also from the left and right side too.
- **Question 6**
  - All participants agree that having a leaderboard can make overall of the gameplay more competitive

# CHANCES MADE







## EVALUATION PART 2


- **Question 2**
  - 50% said they have played a recycling before and the 50% said they did not.
- **Question 3**
  - Most of the participants said that their knowledge about recycling is 3 out of 5.
- **Question 6**
  - Almost all the participants stated a 5 out of 5 score and only participant 4 and 7 gave a 4 out of 5 scores.
- **Question 7**
  - All participants have said that they understand recycling much better after playing the game





## CONCLUSION

- Problems?
  - When publish the game, need a suitable SDK.
  - Prefabs were not throwing out to the screen.
- Personal Preference
  - The report was very successful as it has met what does it need to investigate, and has satisfied most aims and objectives at the beginning of this report.
- Future Work
  - Perhaps introduce avatars during the levels...



END OF THE PRESENTATION

THANK YOU FOR  
LISTENING