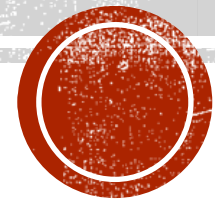# Software Engineering Individual Project

Mengxia Wang

FLAPPY BIRD

Functionality

Basic

- The bird moves forward with a fixed speed

- A player taps the screen to keep the bird flying up, otherwise it will drop

- The bird flying up speed depends on how quick a player taps the screen

- Game over if the bird hits the fixed green pipes obstacles or drops to the ground

- Finally a player gets a score after game over which is the total of pipes the bird has passed

Advanced (nice-to-have)

- The pipe obstacles can move up and down

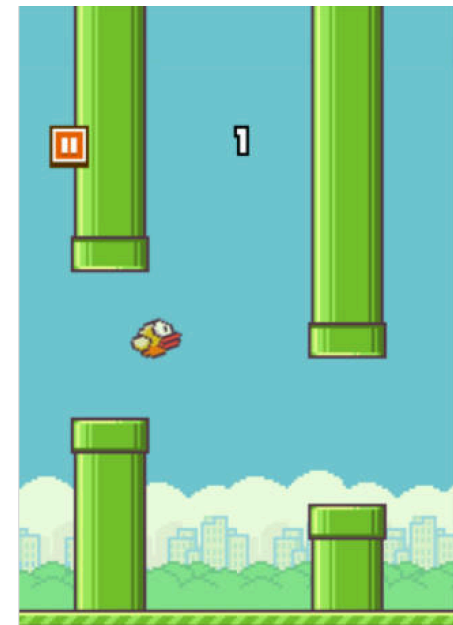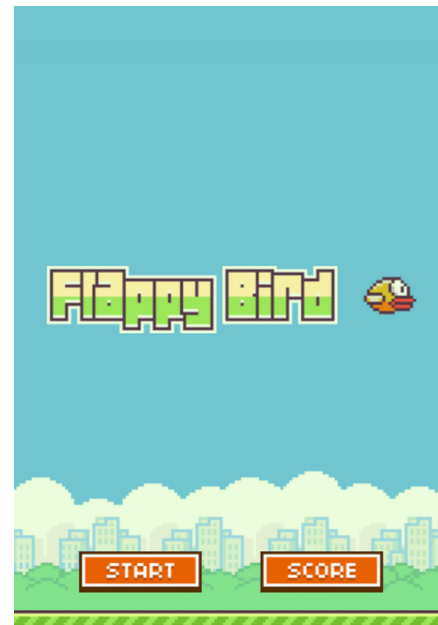- Select bird speed

- Multiply player

Appearance and Interaction

Appearance

- Bird
- Pipes
- Background scene
- Buttons

Interaction

- Tapping the screen
- Touching buttons (start/score button)

Testing

Automation Testing

- JUnit Testing

- Aiming to achieve 80% code coverage

- Benefits: discovering bugs; preventing regression issues; code refactoring

Manual Testing

- Write up test plan to cover all the test cases for each feature and execute the test plan

- Benefits: discovering bugs can't be covered by the JUnit Testing; confirming the game working as expected overally

User Feedback

- Invite friends/classmates/potential users to play the game

- Gather the user feedback/experience from them

- Gather potential bugs from them

- Further improve the game

Documentation

- Commenting code

- Documenting technical details about how the game is designed and implemented

- Writing user guide about how to play the game for the game player

Planning

- Week 1-4: Came up with the idea, presentation/planning, upskilling myself

- Week 5: Setup the Android project using Gradle and investigate relevant third party libraries for the project. Come up with a design for the UI.

- Week 6: Create the UI with the designed start button, background scene and the bird.

- Week 7- 8: Achieve the functionality for the bird interaction: move forward, fly up, drop and Add pipe obstacles to the UI

- Week 9: Improve each pipe obstacles to be randomly generated. Add the score board to the game.

- Week 10: Finalize the game and carry out the manual testing for pre release. Gather user feedback by invite friend to play and further tweak the game.

- Week 11-12: Worked on the advanced (nice-to-have) features if I have time. Release the game to the Google Play store.

FlappyBird

Thank you!!

Mengxia Wang

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