# Jin's Findings

## Badly structured project (Maven File Structure)

Our group project folder structure was not complete and all over the place. Modified the folder structure of the project to Maven default folder structure so that our group makes 100% use of makefile, maven and pom.

Related Commits: 3d80a1b, 1dd48f7, 8681a6d, c5fc991, 5129ad7 (Makefile), and 41601fe (pom)

## Lack of documentation

Some of the java files had no java doc comment layout for our automated java doc pom file. Added and modified detailed java doc comments for Acorn.java, Characters.java, GamePanel.java, Orange.java, Portal.java, Setter.java, Tile.java, and UI.java

Related Commit: 205efd1

## Low cohesion (Refactor)

KeyHanlder.java had low cohesion methods such as keyPressed(), inputMove(int code) and keyReleased(KeyEvent e). I thought these methods could benefit from being refactored.

Related Commit: 5c00f8e

## Poorly structure code

Modified line 181, 183~187 (Racccons.java) and 199, 201~205 (Squirrrel.java) where our if/else statements for spriteCounter were unnecessary or wrong. Sprites were not alternating between 1 and 2, characters were not moving flawlessly in game for both files. It was also originally accumulating the wrong counter for spriteCounter as they were not alternating between 1 and 2 correctly.

Related Commit: b574256

## Unused or useless variables

In line 251 of Squirrels.java, graphics2.drawImage required to have 6 parameters but only had 4. It was missing the graphics' xPosition and yPosition. Also got rid of unnecessary external libraries such as java.awt.Graphics2D, java.io.Reader, java.io.InputStreamReader and added java.io.InputStreamReader and java.awt.*; and fixed the rest of the code accordingly.

Related commit: ccba9b7

## Bad/confusing variable/file names

Modified line 31~33 in Setter.java. Changed variable names gp.acorns to gp.rewards so that the accumulating method works more efficiently. Planned to have more than 1 punishment item so we originally named all of it to punishments, but we ended up using only 1 punishment which is potato, so renamed with a more straightforward name potato in GamePanel.java (line

222~225). Went from having separate accumulating methods for each reward such as acorns and oranges to only 1 accumulator. Modified confusing java file names as well.

Related Commit: 38aa940, 8a78fbc, fd07771a, ef6f8f4, 19a0170, 736b2aa

## Wrong access modifiers

Fixed private access modifiers to public so that it can be accessed from anywhere inside the program.

Related commits: 353f71c, 11530d0

## Dead/Unused Code

Line 18, pause has been removed for KeyHandler.java

Related Commit: 5c00f8e

# Zekai's Findings

### Smell 1: Lack of documentation
Problem: No java doc comments for some .java files.
Fix: Add the java doc for Character.java, Squirrels.java, and Raccoons.java
Commits: e982a35, 499031f, 49adc5c

### Smell 2: Accessible of variables/methods
Problem: some variables/methods couldn't call when i want to use in other class due to they are protected or private
Fix: change protected/private to public
Commits: d9fda63, 9d4e8f7

### Smell 3: Dead code
Problem:exists some unused import methods/variables in Raccoons.java and Character.java, also have some parts in Tile.java and Character.java never executed
Fix: delete those parts
Commits: ecc4b11, c562ec1, 170eb5a

### Smell 4: Bad file/variable names
Problem: exist a typo for the folder name of squirrel's images so we couldn't get images, and have different variable or function name for the same variable/function among some .java files, such as UI.java, Character.java and GamePanel.java
Fix: rename the folder, change those with the same variable/function name
Commits: 0b9ae39, b88116c, 18415ff, 8c654bc

### Smell 5: poorly structured code
Problem: couldn't call the .get() method from Tile.java in CollisionChecker.java
Fix: change the tiles.get() to tiles[ ]
Commits: d506efc

### Smell 6: Code duplication
Problem: have same code in two classes with the same abstract class
Fix: Move the sprite part to Character.java

Commits: 46f08d2

**Smell 7: Unnecessary use of unsafe construct**
Problem: the argument for get images might be get null
Fix: Add Object.requireNonNull before my original code in Squirrels.java and Raccoons.java
Commits: 1d45481

**Smell 8: Unnecessary if statement**
Problem: there have an unnecessary if statement in squirrels.java
Fix: change the if part to return when it satisfy.
Commits: 170eb5a