Step 5: Testing

In House Test

Testing Form: AngryFlappyBird	
Name:	Creator: Andy Li
TEST CASES	**RESULTS AND NOTES (HIGHLIGHT INDICATES FIXES/ADDITIONS ARE SET)**
Date of Test:	January 8th - 12th, 2019
AngryBirds Gamemode	- The game idea is creative and unique - Good idea adding different enemies with different abilities such as speed, size, fire power, etc. - BOSS ENEMY is fantastic - Health bar is very useful
Flappy Birds Gamemode	- Gamemode is a spot-on clone of the original Flappy Bird game 2 game modes allows the user to have twice the fun! - Bird moves up the perfect height and is affected by gravity - Collision detection is accurate and score adds up correctly
Menu/Pause Screen/End Screen/Help Screen Functionality	- Screens are well decorated with images and make the game feel vibrant and cheerful - Very easy to move around, go back, and access the screens - End screen demonstrates well the purpose of the program: from an advertising standpoint, to sell a product within the game. In this case, the game is advertising the hypothetical "new Angry Birds movie".
Validates Input	Keyboard and mouse input is working effectively without delay
Helpfulness of Help Screen	Help screen clearly shows the buttons and how to play
GAME FEEDBACK	
Positives	- Animations are good - Just like the real flappy bird - Has 2 game modes - Organized with cool animations and effects.
Negatives	Text from the heads up display and level is too small
Things to add	- Highscore function that stores high scores in a file and sorts the file for the highest score - HelpScreen should be accessible throughout the game - There should be a way to leave the game and return back to the menu without having to purposely lose

Field Test 1: AFTER IMPLEMENTATION OF FIXES FROM IN HOUSE TEST

Testing Form: AngryFlappyBird	
Name:	Classmate: Kevin Wang
Date of Test:	January 9th, 2019
TEST CASES	**RESULTS AND NOTES (HIGHLIGHT INDICATES FIXES/ADDITIONS ARE SET)**
AngryBirds Gamemode	- Adding multiple enemies into the game is super fun - I like how you can play as the Green Pig because in the actual Angry Birds, the Green Pig is always the enemy - Fix spawning of birds to avoid hitting you
Flappy Birds Gamemode	- Great work creating a game that matches well to the original - Gravity is very well implemented and score is shown clearly - Game is sometimes laggy especially when near the pipes
Menu/Pause Screen/End Screen/Help Screen Functionality	- Easy to transfer from screen to screen - Buttons are clear and big - Make end screen and select game mode screens more appealing and not just a black screen with a title
Validates Input	- Buttons are easy to use and are clearly mentioned in the help screen - Sometimes, the keyboard input is laggy. Mostly, at the start of the game but improves as play continues.
Helpfulness of Help Screen	- Help screen needs to have more information and diagrams to show what each key does and how each game works so that new players who have never played Flappy Bird or Angry Birds can understand
GAME FEEDBACK	
Positives	- Runs smoothly - Fun - Having multiple game options gives the user more choice
Negatives	- Some screens are very empty, try to fill them up with text or images - There is some input delay and lag at the start of the game when the game starts for the first time but gets progressively better
Things to add	● Additional levels ● Character selection where the user gets to choose which angry bird or flappy bird they want to use

Field Test 2: AFTER IMPLEMENTING FIXES FROM FIELD TEST 1

Testing Form: AngryFlappyBird	
Name:	Classmate: Jaden Lui
Date of Test:	January 10th, 2019
TEST CASES	**RESULTS AND NOTES (HIGHLIGHT INDICATES FIXES/ADDITIONS ARE SET)**
AngryBirds Gamemode	● Interesting and original ● Movement is smooth in all directions ● Easy to get into, hard enough to complete, and difficulty increments a good amount
Flappy Birds Gamemode	● Simple yet effective ● Movement is very smooth ● Graphics are very nice and look like the original Flappy Bird game
Menu/Pause Screen/End Screen/Help Screen Functionality	● Looks nice and colourful ● Display all relevant information when the game is over ● You should implement a pause screen that allows the user to either leave the game or get help
Validates Input	● Buttons work well and there is a graphic indicating they are being hovered over ● Characters move freely and user can control player easily
Helpfulness of Help Screen	● Help screen is good and clear. However, you can make sure to access the help screen from the game as well.
GAME FEEDBACK	
Positives	● Looks very nice and colourful, and movements are extremely smooth ● No errors and all elements work properly
Negatives	● Design of screen makes buttons a bit hard to see ● Help screen needs a little more information ● Both games (especially Angry Birds) could use a warning that the game starts as it starts suddenly and can result in unnecessary damage being taken
Things to add	● Health booster that increase the user's health throughout the game, particularly during the end stages when it gets very hard ● Coins can be added that give the user incentives such as an increase in score, slows down or removes enemies, short-term player invincibility, etc.

Field Test 3: AFTER IMPLEMENTING FIXES FROM FIELD TEST 2

Testing Form: AngryFlappyBird	
Name:	Computer Science Student from other class: Hanan Au
Date of Test:	January 12th, 2019
TEST CASES	**RESULTS AND NOTES (HIGHLIGHT INDICATES FIXES/ADDITIONS ARE SET)**
AngryBirds Gamemode	● Player moves fluently and at ease ● There is no delay when changing directions rapidly ● Game is not too hard, but not too easy, it is overall fun yet challenging
Flappy Birds Gamemode	● Key for spacebar listens properly ● Game is fluent and continuous. No errors with score or game settings ● Pipes are evenly spaced and render properly
Menu/Pause Screen/End Screen/Help Screen Functionality	● Menu screen, end screen and pause screen all work efficiently ● Can access screens from anywhere on the game ● Screens are well decorated with images which makes the game much more appealing and exciting
Validates Input	● Keyboard input and mouse input are flawless
Helpfulness of Help Screen	● Help screen uses images to creatively display how to play the game. Maybe add a little bit more information but overall, very useful.
GAME FEEDBACK	
Positives	● Animations are good ● Just like the real flappy bird ● Has 2 game modes ● Organized with cool animations and effects.
Negatives	● Try to add highest score ● Text from the heads up display and level is too small
Things to add	● Try adding more features to enhance the game including the rest of the angry bird family ● Also, make the game bigger because it is small and should use up more of the screen size

FULL LIST OF ERROR AND FIXES

Error/Required Fix	Fixes	Date of Fix
Fix spawning of birds to avoid hitting you	Birds now randomly spawn in locations which makes the game more intriguing since the player will never expect an enemy to pop out of nowhere	Jan 9th, 2019
Game is sometimes laggy especially when near the pipes	Lag is fixed because changed the loading time for the constructor and not the renderer so the program only needs to load the image when the game creates the object	Jan 9th, 2019
Make end screen and select game mode screens more appealing and not just a black screen with a title	Images and creative items have been added to all screens to help the user have the best experience!	Jan 9th, 2019
Sometimes, the keyboard input is laggy. Mostly, at the start of the game but improves as play continues.	Pipe objects were not rendering at the right time and as a result, they began to lag. Fixed by loading the pipe image in the constructor	Jan 9th, 2019
Help screen needs to have more information and diagrams	Keyboard buttons have been added and so has colour and pictures of your favourite characters	Jan 9th, 2019
Some screens are very empty, try to fill them up with text or images	All screen have been decorated with their own twist but the end screen certainly stands out!	Jan 10th, 2019
You should implement a pause screen that allows the user to either leave the game or get help	Pause screen has been implemented and also allows the user to access the help information	Jan 10th, 2019
You can make sure to access the help screen from the game as well.	Yes, as mentioned above, the pause screen has the necessary help information	Jan 11th, 2019
Design of screen makes buttons a bit hard to see	Colours have been more condensed and pixelart has been used to generate better	Jan 11th, 2019

	quality images in the program	
Both games (especially Angry Birds) could use a warning that the game starts as it starts suddenly and can result in unnecessary damage being taken	There is a short delay that begins before the game begins that loads in the images	Jan 11th, 2019
Try to add highest score	Used reading and writing to files, quick sort with recursion, and determined the highest array	Jan 12th, 2019
Text from the heads up display and level is too small	Heads up display size has been updated and clearly shows the important information	Jan 12th, 2019