

Quality Assurance Tests

Test ID	Testing	Scene	Instructions	Expected Outcome
01	Physics-based car movement	CarScene	Hold reverse key (S) and either steering key (A / D)	Turning while the car is in reverse should behave realistically
02	Physics-based car movement	CarScene	Drop car game object above plane or ramp up a hill	The car should be affected by gravity
03	Physics-based car movement	CarScene	Drive around with car in various different scenarios, locations and duration	The car should be affected by a linear drag force opposite to the direction of movement of the car, proportional to its velocity.
04	Physics-based car movement	CarScene	Ramp up a hill and try to control the car in the air	The car cannot be controlled when it is in the air and The car should be affected by friction when it is in contact with the ground.
05	3D Terrain & Obstacles	CarScene	Drive into an object.	The player can collide with these objects and will bounce off them.
06	Checkpoints	CarScene	Drive through lit up and unlit checkpoints	When the player passes within a tuneable radius of the checkpoint, it becomes inactive, and the next checkpoint in the sequence becomes active.
07	Checkpoints	CarScene	Drive through all the checkpoints	The game is over when the

				player reaches the last checkpoint.
08	Player health	CarScene	Collide with an object	Colliding with either an obstacle or with the terrain reduces health, proportional to the force of the collision. Collisions below a tunable threshold force cause no damage.
09	Player health	CarScene	Drive through lit up and unlit checkpoints.	A tuneable amount of health is restored at each lit up checkpoint.
10	Player health	CarScene	Collide with objects until health is less than 25%	If the health drops below a tunable threshold, the car begins to emit smoke.
11	Player health	CarScene	Collide with objects until health is 0%	If the health reaches 0%, the car explodes, and the game is over.
12	Camera control	CarScene	Accelerate forward with the car	When the car accelerates forward, it moves further away from the camera and if the car is stationary it should be close to the camera.
13	Camera control	CarScene	Drive and turn with the car	When the car turns, the camera should be positioned inside the turn. i.e when the car is turning right, the camera should be on the right-hand side of the car.
14	Camera control	CarScene	Drive up a slope	The camera maintains a vertical orientation (in world coordinates) regardless of how

				the car is rotated
15	Camera control	CarScene	Drive around with car in various different scenarios, locations and duration	The camera should move smoothly between these positions as the car accelerates and turns.
16	User interface	UIScene	Change screen size (but not ratio)	The game should run on any screen with a 16:9 aspect ratio
17	User interface	UIScene	Collide with an object	A health bar showing the car's health as a proportion of the maximum health.
18	User interface	UIScene	Start the game and play for a while	A timer showing the time since the start of the race.
19	User interface	UIScene	Complete the game	"You win!" should appear on a panel over the game
20	User interface	UIScene	Collide with objects until health is 0% and run out the timer.	"You lost!" should appear on a panel over the game and a list of checkpoints completed and the time at which the player reached each. Incomplete checkpoints should be labelled "Incomplete"
21	User interface	UIScene	Complete the game or lose	A button allowing the player to start the race again.
22	Analytics	UIScene	Check using Unity Debugging tools.	When the player reaches a checkpoint: <ul style="list-style-type: none"> - The time since the beginning of the race - The player's health (before the checkpoint)

				health boost)
23	Analytics	UIScene	Check using Unity Debugging tools.	<p>When the player dies:</p> <ul style="list-style-type: none"> - The time since the beginning of the race. - The player's position in the world. - The name of the object the player collided with.

Bug History

Highlighted entries were fixed in final version

Bug ID	Date of Test	Severity (0-4)	Component Affected	Summary	Test ID	Steps to reproduce	Expectation	Reality	Screenshot file name
01	2/11/2021	3	???	When I reset the scene, the lighting in the scene is changed	01	Finish or fail the game and hit 'Retry'.	Lighting should stay the same.	Lighting changes when the scene resets.	lightingGlitch1.JPG lightingGlitch2.JPG
02	2/11/2021	4	UI	Active checkpoint does not light up.	N/A	N/A	The active checkpoint should be different from other checkpoints	All checkpoints are the same color	N/A
03	3/11/2021	3	Car Health	When Car collides with the wrong checkpoint, health is restored.	02	Collide with the wrong checkpoint.	Car Health should not be restored when colliding with inactive checkpoint	Car Health is restored when colliding with inactive checkpoint	N/A
04	3/11/2021	4	UI	A list of completed checkpoints do not show up at	N/A	N/A	A list of completed checkpoints and their times	Only the final time is listed at the end	N/A

				the end screen only the final time.			should be listed at the end screen.	screen.	
05	4/11/2021	3	Car driving	When steering the torque was too low to turn on all but flat ground	01	Attempting to turn on flat, new terrain	Car should turn when driving	Car was very slowly turning	N/A
06	6/11/2021	3	Car collision	The front bumper of the car continually collided with ground	02	Building gradual slopes to test extent of problem	Car should drive and navigate terrain	Car would often get stuck on small bumps	N/A
07	6/11/2021	2	Car	Car collider would often clip into own wheels and stop driving	01	Creating flat terrain and trying turning to find when clipping would occur	Car should drive naturally and easily	Car would stop or lose speed randomly	N/A
08	6/11/2021	3	Camera	Camera slides wrong way when turning	15	Turning car on flat terrain	Camera should stay inside the turn	Camera would go the opposite direction	N/A

09	7/11/2021	2	Car movement	Car moves erratically, the isTouching variable wasn't working with 3D model so it drives in midair as well	03	Driving car around course for testing	Car should be easy to drive and control, not flying in mid air	Car is difficult to control and can fly	N/A
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Bug Severity

Blocker (0) – Blocks testing and there is no workaround

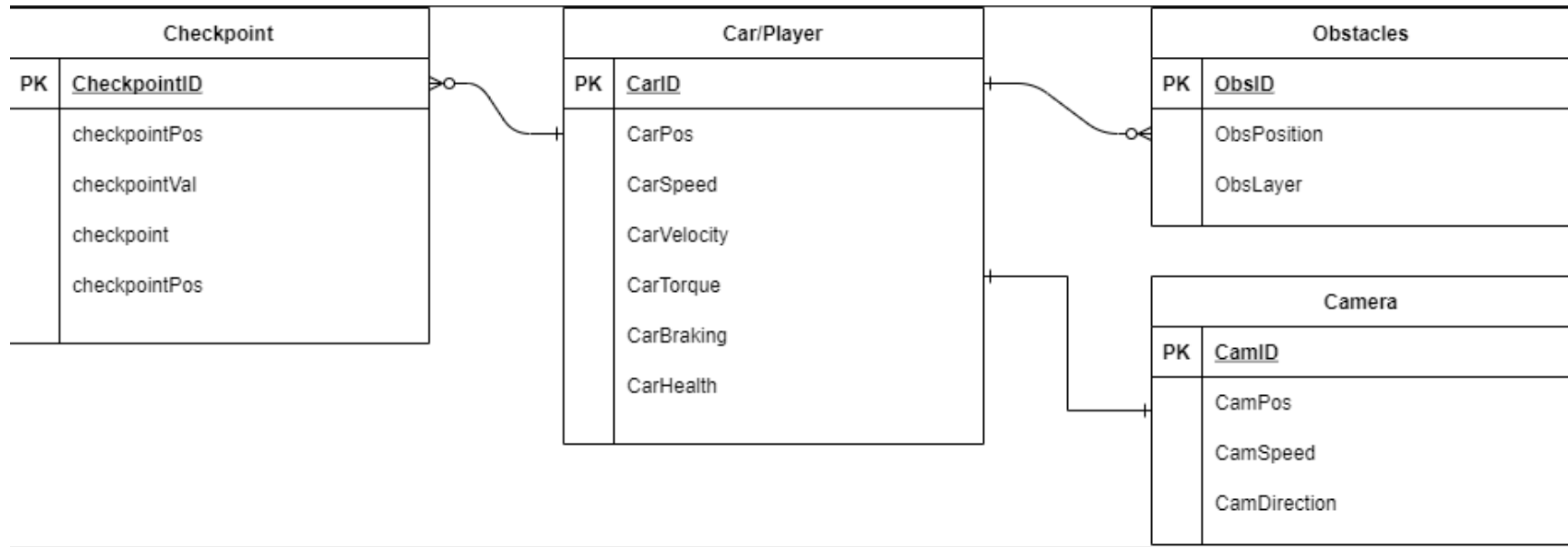
Crash Bug (1) – Crashes the game but there may be a workaround

Critical Bug (2) – Major functionality problem

Minor Bug (3) – Error that is noticeable but not critical

Feature Request (4) – Desirable change but not currently a defined feature

ER Diagram



Work Proof

I accidentally made a separate repository instead of using the school repository. We both did all our work there. Here is the proof:

FileEditViewRepositoryBranchHelp

Current repository
COMP2160-ass2

Current branch
main

Fetch origin
Last fetched 5 minutes ago

Changes 300+

History

Select branch to compare...

Finished

BPaycana • 5m

Merge branch 'Andrew-Branch'

BPaycana • 1h

Final touches on prefabs

AndrewThompsonMQ202046417729 • 1h

Added camera script and prefab

AndrewThompsonMQ202046417729 • 5h

Removed prefab terrain from scene

AndrewThompsonMQ202046417729 • 7h

Fixed mesh on terrain obs

AndrewThompsonMQ202046417729 • 7h

Added prefab "terrain obs"

AndrewThompsonMQ202046417729 • 8h

SCENE CHANGED: added obstacles to t...

AndrewThompsonMQ202046417729 • 8h

Updated car driving

AndrewThompsonMQ202046417729 • 8h

Added Car prefab, attached to camera

AndrewThompsonMQ202046417729 • 1...

Add track onto terrain

BPaycana • 20h

Merge branch 'Andrew-Branch'

BPaycana • 21h

Terrain mapping and texture

AndrewThompsonMQ202046417729 • 2...

(Mostly) Finished my portion of the ass...

BPaycana • 4d

Scene reset v0.1

BPaycana • 4d

Track Checkpoints v0.1

BPaycana • 6d

Health Bar v0.1

BPaycana • Oct 29, 2021

In-Game Timer

BPaycana • Oct 29, 2021

Unity Project & .gitignore

BPaycana • Oct 26, 2021

Finished

BPaycana 781b67e 12 changed files +1362 -778

COMP2...\New Terrain 3.asset

C...\New Terrain 3.asset.meta

COMP2160 Assi...\Car.prefab

COMP2160 A...\Player.prefab

COMP2...\Player.prefab.meta

COMP2160 ...\Player1.prefab

COM...\meta → COM...\meta

COMP2160 Assi...\Main.unity

COMP2160 Assi...\CarMove.cs

COMP216...\CarMove.cs.meta

COMP2160 Assig...\Player.cs

COMP2160 ...\Player.cs.meta

@@ -0,0 +1,8 @@

1 +fileFormatVersion: 2

2 +guid: e2b06d21808269d40b7913e6d4dee469

3 +NativeFormatImporter:

4 + externalObjects: {}

5 + mainObjectFileID: 15600000

6 + userData:

7 + assetBundleName:

8 + assetBundleVariant:

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Last fetched just now

ChangesHistory

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BPaycana -O- 781b67e ± 12 changed files +1362 -778 🔍

COMP2160 Assign...\New Terrain 3.asset

COMP2160 ...\New Terrain 3.asset.meta

COMP2160 Assignment 2...\Car.prefab

COMP2160 Assignment...\Player.prefab

COMP2160 Assign...\Player.prefab.meta

COMP2160 Assignme...\Player1.prefab

COMP21...b.me... → COMP21...b.me...

COMP2160 Assignment 2...\Main.unity

COMP2160 Assignment ...\CarMove.cs

COMP2160 Assign...\CarMove.cs.meta

COMP2160 Assignment 2\A...\Player.cs

COMP2160 Assignme...\Player.cs.meta

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