Game Design Studio Two

"Mowdown"

Team Four

Report for Sprint Three

07 / SEP / 2015 – 20 / SEP / 2015

Team Members:

Matthew Carver – 12028130
Deinyon Davies – 11688025
Robert McClelland – 11743693
Dinh Bao Anh (Brendan) Vo – 11437237
The most honoured Master of the Scrum, Sir Jesse Walker – 11729631

OVERVIEW

Mowdown is a 'Demolition Derby' or 'Battle Bots' style videogame, created by (in ascending alphanumeric order) Matthew Carver, Deinyon Davies, Dinh Bao Ahn (Brendan) Vo, Robert McClelland , and Jesse Walker.

Players customize one of several domestic **lawnmowers** by means of attaching defence appliances and weapons that have been unlocked and purchased by the player by means of in-game experience points and currency. Players compete against at least one autonomous opponent – a strategically formed battle-mower – as if both are controlled via Remote Control (R.C.).

Sprint Three sports several new features, bug fixes and enhancements, including (but not limited to): Sound effects, Top-Down Camera ('P' to Toggle), Particle effects for certain attachments, Level Hazards, a new level design, improved damage mechanics, attachments including a booster, an obstacle-avoidance camera, attachment socketing system for the enemy, and somewhat improved Artificial Intelligence.

SPRINT PLAN AND EXECUTION

Sprint Three of Project Mowdown set out to implement sixteen discrete new features including (but not limited to): bug-fixes, level design, improved Artificial Intelligence, improved User Interface, Sound effects, Top-Down Camera mode, Attachment Particle effects, vehicle attachment modelling and implementation. These sixteen task items were identified in the initial Sprint Meeting.

As of the preliminary Sprint Meeting, the Sprint Log proposed a **total estimated** investment of **2,260 minutes** – 250 minutes less than the estimated investment for Sprint Two – with an estimated **median** task duration of **50 minutes**. The sprint would optimistically be completed in 1,450 minutes.

Early playtesting suggested that players desired a larger battle arena. It was identified that Sprint Three should contribute a large 'demolition derby'-style level design, and as such, was appended to the sprint backlong. Additionally, it was suggested by playtesters that a countdown visualizer would be desirable for the opponent flipping mechanic, and as such, the countdown was implemented.

Two tasks with indeterminate lengths were appended to the sprint, and were assigned to Matthew and Jesse. These tasks were the creation of models, and the development of attachments respectively. These tasks were implemented as several of our testers expressed a want for more attachments, however as these attachment ideas were not thought of yet it was not possible to assign an estimate time to the creation of the models.

During the execution of the scrum, 2 critical and prerequisite tasks became apparent, which were completed and appended to the Sprint Log when necessary. The auxiliary tasks assumed an additional estimated duration of 80 minutes, expanding the **total estimated** sprint workload to **2,340 minutes** (39 hours).

At Sprint finalisation, the Sprint Log totalled 30 expected and unexpected tasks. The team observed a **total logged workload** of **2,193 minutes** (~37 hours). Five tasks stood incomplete or uninitiated at the time of sprint closure.

SCRUM MEETING LOGS

07 / SEP / 2015
      4:30pm – 6:00pm
Location: UTS Building 11, Game Design Studio Laboratory
Members present: Brendan, Deinyon, Jesse, Matthew, Robert

The team identified backlog items and discussed time estimates.

14 / SEP / 2015
      4:30pm – 6:00pm
Location: UTS Building 11, Game Design Studio Laboratory
Members present: Deinyon, Jesse, Matthew, Robert

The team discussed and worked on the implementation of the flipper activation animation.

17 / SEP / 2015
      7:00pm – 9:00pm
Location: Online Group Discussion
Members present: Deinyon, Jesse, Robert

The team discussed bugs with the most recent version pertaining to the sockets and the inability to add attachments to the player. Jesse had recently completed work that reworked this system, and once implemented fixed the bugs.

The team discussed a possible fix for the lighting bug with the floor in the first battle scene. The attempted fix was available for unity 5.2 so Deinyon upgraded the project to the new version. The game could still be opened on unity versions 5.1.2.f (such as the UTS computers) so it was decided this would be fine. Unfortunately this update broke the analytics.

The team discussed whether or not the analytics should be re implemented, the process being significantly different from the process in unity 5.1.2.f. It was decided that the analytics was not being used, and the information provided was not useful for the current state of the game. This meant game analytics was removed as a feature of the game.
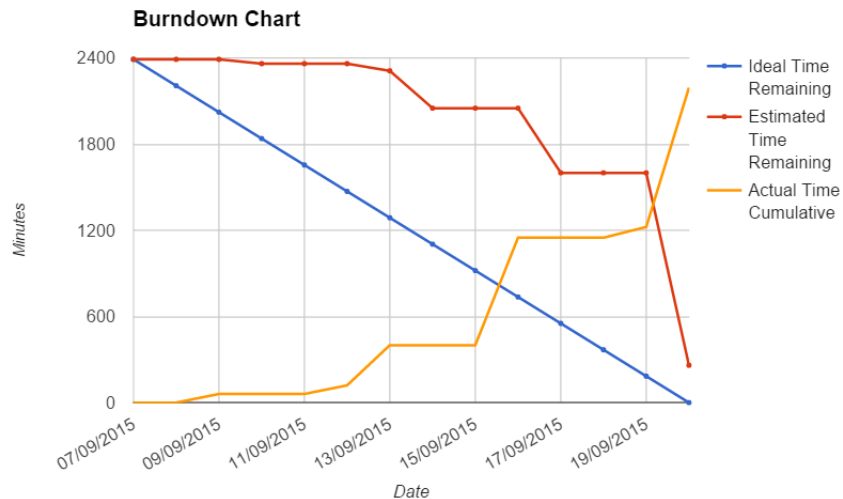
20 / SEP / 2015
Location: Online Group Discussion
Members present: Deinyon, Jesse, Robert

Discussed and implemented the desired particle effect for the booster attachment. See the following figure for the desired effect:

BURNDOWN CHART

REFLECTION

Despite having less estimated time required for this sprint the state of the project was in disarray at the end of sprint two due to a problem with '*github*' commits. Repairing the damage and restoring all functions that were 'completed' in sprint two took the first week, considerably longer than the estimated time; Once the project was deemed 'repaired' on the 16th the team was able to resume normal work. The Burndown Chart illustrates that very little work was done over the course of the first week and that much of the work was completed in the last few days coming up to the end of the sprint. Much of the work of sprint three was completed on the final day of the sprint. This was due to several other classes having assignments due during this time. It will be important to remember other classes when choosing how many use cases will be assigned to each sprint, as the team had difficulty completing all the work assigned.

SPECIAL CIRCUMSTANCES

N/A

Sprint Backlog

User Stories	Acceptance criteria	Assigned to	Order	Task	Esimated Time	Minimum Time	Maximum Time	Actual Time	Completed On	Completed By	Checked By	Notes
As a developer I want all the functions developed in one project again	Succesfully merge all the different branches	GROUP	1	Merge all the branches in GIT	210	130	340	340	16 / SEP / 15	Robert + Deinyon		Deinyon worked for 40 minutes to find a cleaner solution than rebasing the remote master, but failed, Flippers now work so only thing left is the radar?
As a user I want standardised braces as having different types is confusing	Standardise all braces to one model	Jesse	2	Implement standardised braces	130	80	210	180	13 / SEP / 15	Jesse		Not entirely sure what this one meant but I fixed up the spikes ont he side and added braces for them, as well as fixing up prefabs and front flipper
As a user I want a countdown for flip timeout	Big to small countdown 5 seconds	Brendan	3	Make a countdown that activates when the player/enemy is flipped	80	50	130	45	20 / SEP / 15	Robert		
As a user I want upgrade mechanics because im an rpg nerd	Upgrade mechanics are implemented	Jesse	4	Upgrade mechanics implemented	340	210	550	500	20 / SEP / 15	Jesse		500 minutes over several days
As a user I want boost and strafe to be tied to attachments so I can design my strategy	Boost and strafe are only enabled if attachments are in the right spots	Robert	5	Boost and strafe are only enabled if attachments are in the right spots	130	80	210	40	20 / SEP / 15	Robert		
As a user I want fire particle effects to create immersion	The rocket model has fire particle effects when active	Brendan	6	The rocket model has fire particle effects when active	80	50	130	40	20 / SEP / 15	Robert		
As a user I want SFX because the game is too quiet	Collision Sound Implementation	Brendan	7	Collision Sound Implementation	50	30	80					
	Boost Sound Implementation	Robert	7.1	Boost Sound Implementation	50	30	80	5	20 / SEP / 15	Robert		
	Strafe/Rocket Active Sound Implementation	Brendan	7.2	Strafe/Rocket Active Sound Implementation	50	30	80	0	20 / SEP / 15	Robert		Used the same sound as the booster

User Story	Task	Person	#	Task					Date	Person		Notes
	Flipper Sound Implementation	Robert	7.3	Flipper Sound Implementation	50	30	80	5	20 / SEP / 15	Robert		
	Suspension Sound Implementation	Matt	7.4	Suspension Sound Implementation	50	30	80					
	Collision Track	Brendan	7.5	Collision Track	30	20	50					
	Boost Track	Robert	7.6	Boost Track	30	20	50	25	20 / SEP / 15	Robert		
	Rocket Track	Brendan	7.7	Rocket Track	30	20	50	0	20 / SEP / 15	Robert		Used the same sound as the booster
	Flipper Track	Robert	7.8	Flipper Track	30	20	50	10	20 / SEP / 15	Robert		
	Suspension Track	Matt	7.9	Suspension Track	30	20	50					
As a user I want a challenging AI because winning all the time is boring	AI consideration of its sockets and player sockets	Deinyon	8	Program AI to use attachments	210	130	340	200	20 / SEP / 15	Deinyon		
As a user I want the enemy to progress just as I do	AI installs attachments on its sockets. (RNG or otherwise)	Jesse	8.1	AI installs attachments on its sockets	130	80	210	100	13 / SEP / 15	Jesse		Enemy bot now spawns with randomized attachments
		Deinyon	8.2	Re-structure socketing and weapon code for use by AI	130	80	210	100	20 / SEP / 15	Deinyon		
As a user I want another new map because the current ones are too small	Another map	Deinyon	9	Another map	210	130	340	394	16 / SEP / 15	Deinyon		
As a user I want map hazards because the map is too simple	Hazards are added to the new map	Deinyon	10	Hazards are added to the new map	30	20	50	60	09 / SEP / 15	Deinyon		Modelled bucket & table hazard. It is a prefab in the Prefabs directory. It exists on the first map in my branch for testing.
	^above mechanics	Robert	10.1		80	50	130	20	19 / SEP / 15	Robert		
As a user I want the UI store to look more interesting because it is dull	Workbench model	Matt	11	Workbench model	50	30	80	60	12 / SEP / 15	Matt		Still doing a texture for it but the model is complete

User Story	Feature	Name	ID	Task					Date	Name		Notes
As a user I want more attachments because im greedy	Content Creation	Matt	12		N/A	N/A	N/A	200	12 / SEP / 15	Matt		Shield, Saw
As a user I want a tree to progress down because im an rpg nerd	Design a tech tree	Jesse	13		N/A	N/A	N/A					
As a user I want to have a longer battle because I invest so much time in building my bot	Balance Bot/Player HP and attachment HP and damage and mass (1min to 2min length)	Brendan	14		50	30	80					
As a competitive player, I would like to clearly visualize the location of my opponent(s) with a top-down view.	The player can activate an optional '2D' orthographic viewport.		15	Implement top-down '2D-style' orthographic-projection viewport	50	30	80	20	20 / SEP / 15	Robert		Requested by our Most Honourable Owner of the Project, Cat.
		Deinyon	16	Implement variable FOV look-at style camera for stadium scene	30	20	50	14	16 / SEP / 15	Deinyon		
		Deinyon	17	Fix vehicle-following camera 'jumping' bugs	50	30	80	55	19 / SEP / 15	Deinyon		
				Totals:	**2390**	**1480**	**3870**	**2073**				

VERSION CONTROL COMMIT LOG

commit ac56101d01d5673e100b1690a39ae6469e6246be
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sun Sep 20 23:02:45 2015 +1000

    Store is in - weird bugs with UI

commit 7fe6e4dd4914a77f10a4c56e248dcec373ce182c
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 22:52:47 2015 +1000

    report commit

commit f8b2448752b6f0de6db0446cc5363def8d261606
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sun Sep 20 22:14:22 2015 +1000

    More store stuff so git doesnt break

commit 61fb0d7878427cda4494b131f1d37948f86e0868
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sun Sep 20 20:58:48 2015 +1000

    fixed animation errors in garage

commit c324ca19eb258de2e5de0abedfe964790c45f6e1
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 20:30:51 2015 +1000

    Updated documentation cover screenshot

commit f1ca766ee4ca4f6e1d90ce34a270a7faa023baed
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 22:42:35 2015 +1000

    Booster AI update

commit 256144eee4803072b5b65f8052dfde2ebdc469ba
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 21:55:10 2015 +1000

    Flipper AI will attempt to recover the bot from being flipped

commit 2c0163818dd4095e044b3b6278f9a971d63b7aaa
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 21:27:46 2015 +1000

    Flipper AI is now more sensible, though is incomplete.

commit f1065d2c7121b8e88dd699c2a55fc0da5269a9c4
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 21:09:36 2015 +1000

    Bot will activate its own flipper attachments.

Pretty awesome when the bot has one flipper on each side.

commit 7b0626402c6034746363e4470295eee39f6f4ad1
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 20:17:33 2015 +1000

        Work-in-progress of weapon and socketing re-structure

commit 1ed20aeac8db68dc2cfefb89d791cccaf44d8f0f
Merge: 5748d55 d0e1c3d
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 16:42:36 2015 +1000

        Merge branch 'master' into FSM-AI

commit cca179a795ccde646cd308bd03678bfe84c62901
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 20:01:42 2015 +1000

        Sprint 3 Documentation

commit 60ee191685e014a938950156a2dbf7abc0688d7f
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 17:53:01 2015 +1000

        Gave the player and bot more hp (200) for longer battles

commit 2a94fc85ae99f2da3f6d857726c2be6e7d4f397b
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 17:46:20 2015 +1000

        Fixed the flipped counter in the other maps

commit 0e56c1fa7e3fbef594d4f200e70cfe27c2ad10a5
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 17:35:20 2015 +1000

        Revert "Revert "Phone Store Model Placeholder""

        This reverts commit 2960b8f9cde4580e6401722e8663920a9a50be77.

commit 127f86981abe79c0cf6691929b10d3a83c3393d6
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 17:29:45 2015 +1000

        Flipped Countdown

commit 2960b8f9cde4580e6401722e8663920a9a50be77
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sun Sep 20 17:29:07 2015 +1000

        Revert "Phone Store Model Placeholder"

        This reverts commit c33f29a39aac01dc641aad05646e4943693f211f.

commit c33f29a39aac01dc641aad05646e4943693f211f
Author: JesseWalker11729631 <11729631@student.uts.edu.au>

Date: Sun Sep 20 17:20:54 2015 +1000

    Phone Store Model Placeholder

commit d0e1c3d78cdbc7768724026e6c82d68895e5d4e6
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 16:31:56 2015 +1000

    Small script for debug equipment attachment. Moving to new
branch.

commit 60bad475be2fbaa4be79a6f592a02a3abc737067
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 16:33:07 2015 +1000

    Booster Sounds

commit 9ae5ab92593f275f1ae7ed3df394673c729447cf
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 16:21:04 2015 +1000

    Flipper sound (bit staticky)

commit e85e414c2245790ce59a75de9dbb490d96bc0c5b
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 11:35:22 2015 +1000

    Deinyon's suggestion for the booster particles

commit c95033f8da8f94eca64d376336d456756b609b7c
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 11:12:52 2015 +1000

    Booster particles

commit e753e672eab2ef141d15adee418cf9b9928f0419
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 10:57:56 2015 +1000

    Modified top-down cameras to clip unwanted geometry, and
applied colour correction

commit b12db1b1dcdca40bdbeda2b0154a41f1e5e9b5b9
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sun Sep 20 10:45:50 2015 +1000

    Modified Jesse's socket code to make socket items accessible
from the FSM AI

    Made equipment accessible via getter, moved equipment
assignment for bot
    mower from BotVehicleController to new specialized class
(BotEquipper).

commit 4ca23c618de4567bbdabba4e3750539704ddc95c
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 10:28:21 2015 +1000

Top Down Camera (activate with 'p') Also fixed hp in map 3

commit 190510996fad463c3a57dc30bcb77b6381f38dc9
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 08:40:51 2015 +1000

        boosters now work, Arrow keys also work for accelerate/reverse

commit e10a8c6b454fab7b96f4f4158732ec0daf8c5a7e
Author: robafett <ram_95@msn.com>
Date: Sun Sep 20 08:01:10 2015 +1000

        Flipper now uses a curve (looks better) fixed controller
support for sockets

commit 80043e2b84cef933a3a19b244ec98158f9622093
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sat Sep 19 23:49:24 2015 +1000

        Fixed several cases of the camera jumping / being stuck

        Made several changes to the camera vehicle tracker script to
fix math
        errors which would result in jumpy camera movements in some
cases.

commit f13922affd814898bda454a37ada65b64c2f9cfc
Author: Deinyon Davies <deinyond@gmail.com>
Date: Sat Sep 19 21:42:14 2015 +1000

        Fixed light backing bug (need confirmation)

commit 66b43015b4cdc553b8b3ede1a120d8f730ec8df6
Author: robafett <ram_95@msn.com>
Date: Sat Sep 19 20:59:18 2015 +1000

        SocketControls are here

commit dae4eab4ce54e2ab2586bbbd740cfc02111a0136
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sat Sep 19 20:54:51 2015 +1000

        Major Garage Overhaul - Booster Added

commit 875ecd685ab2b7a9b2190f75bba3dad95ca0479d
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sat Sep 19 17:43:14 2015 +1000

        Small changes

commit 0ad0b6d3262435a466e85e1284a06eedd4f9cd32
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sat Sep 19 16:36:04 2015 +1000

        Fixed enemy weapon spawning

```
commit 3d5c4f9f5d106009e3dbdb4dec45b8c4256b9294
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date:   Sat Sep 19 16:04:38 2015 +1000

    Fixed item spawning on player

commit 95c487023f6d89e92b9e44b57518b799d3093607
Merge: 4df164e c5bdfca
Author: Deinyon Davies <deinyond@gmail.com>
Date:   Sat Sep 19 13:42:12 2015 +1000

    Merge branch 'master' of
https://github.com/ddoodm/GameStudioTwo

commit 4df164e2b759c5325c9766dbd44533182662afe1
Author: Deinyon Davies <deinyond@gmail.com>
Date:   Sat Sep 19 13:41:45 2015 +1000

    Implemented BattleScene03 (arena) as FBX

commit c5bdfca363ed639bb85cb79e32932f64df131062
Author: robafett <ram_95@msn.com>
Date:   Sat Sep 19 13:20:19 2015 +1000

    The bucket hurts now

commit 4e534248c51e859915f42dbd3addb0860f3073e1
Author: Deinyon Davies <deinyond@gmail.com>
Date:   Sat Sep 19 12:58:15 2015 +1000

    Disabled static lightmapping on BattleScene00 terrain

commit cd0f3e64b0bd2feebaca1191e6815fdd7877cadf
Author: Deinyon Davies <deinyond@gmail.com>
Date:   Thu Sep 17 19:19:54 2015 +1000

    Fixed BattleScene00 UI and AI references

commit 328e982f41a460e1af2e9d2b9afa41c732268ec1
Author: Deinyon Davies <deinyond@gmail.com>
Date:   Thu Sep 17 19:06:11 2015 +1000

    Scene-wide bugfixes

commit c4f3bafc5463f55468aeeb5d91061b3a7884c808
Merge: 613de1a c5d349f
Author: Deinyon Davies <m@ddoodm.com>
Date:   Thu Sep 17 12:28:38 2015 +1000

    Merge pull request #6 from ddoodm/BattleSceneThree

    Battle Scene Three (Arena)

commit c5d349f96b7b72616eb4f8a27efe62d8569bc786
Author: Deinyon Davies <deinyond@gmail.com>
Date:   Thu Sep 17 12:27:44 2015 +1000
```

Manual Arena Integration & Bugfixes

commit 9c4f120188669843525a25f250007fd19d0e0c36
Merge: 10a8d44 613de1a
Author: Deinyon Davies <deinyond@gmail.com>
Date: Thu Sep 17 11:42:17 2015 +1000

    Merge branch 'master' into BattleSceneThree

    Conflicts:
        GameStudioTwo/Assets/_Scenes/BattleScene00.unity

commit 10a8d44d3b512b8e5f30c3c0046140afac29fac5
Author: Deinyon Davies <deinyond@gmail.com>
Date: Wed Sep 16 23:41:39 2015 +1000

    BattleScene03 Detail Update

commit 8c261f4088f8e9cf12341621c57e32b0ee3acccc
Author: Deinyon Davies <deinyond@gmail.com>
Date: Wed Sep 16 21:40:08 2015 +1000

    BattleScene03 Beta Update

commit 613de1afe918eb08946ec4173058d12ca4f0c675
Author: robafett <ram_95@msn.com>
Date: Tue Sep 15 16:46:59 2015 +1000

    wall jumping is in

commit 163deacb12e5d1b24b169b8af1b7433069fa7e1c
Author: robafett <ram_95@msn.com>
Date: Tue Sep 15 12:48:14 2015 +1000

    so it works until u turn. thats good.....

commit 487b65b19c66e147fc1d43b66f21f82988f6668b
Author: Deinyon Davies <deinyond@gmail.com>
Date: Mon Sep 14 22:16:27 2015 +1000

    New Battle Scene (arena)

commit a002f082e7e0729769d31e4f8937210d208e552e
Author: robafett <ram_95@msn.com>
Date: Mon Sep 14 22:12:56 2015 +1000

    Flipper Controls sorta working? gotta figure out rotations on
y axis? (or x)

commit 6591a242d1a254795ca8c9750b44dbd71be244c4
Author: JesseWalker11729631 <11729631@student.uts.edu.au>
Date: Sun Sep 13 19:57:44 2015 +1000

    Enemy Bot Spawns With Random Attachments

commit 140a2ea5700cac7929f35edce59658d9290f522d
Author: JesseWalker11729631 <11729631@student.uts.edu.au>

Date: Sun Sep 13 19:15:45 2015 +1000

    Braces are more standard, added garage model to store scene

commit 510ce22fe0c8a2670005583099818409a0175f1c
Author: Deinyon Davies <deinyond@gmail.com>
Date: Wed Sep 9 11:30:54 2015 +1000

    Bucket Hazard Model & Rigidbodies

commit 152b0d6aeb5d23b61916af8b87541de2f2a40e66
Author: robafett <ram_95@msn.com>
Date: Tue Sep 8 21:00:24 2015 +1000

    I dont know what this is

    I dont know what to call this but try turning the car while
holding
    shift. (Handbrake turn? Drifting? I dunno just messing with
wheel
    collider values)

commit ef709f24889cbfa35e1a01953a23d063d2e92c00
Author: robafett <ram_95@msn.com>
Date: Tue Sep 8 17:35:25 2015 +1000

    Fixing the color applications