

TASK 1

Game Engine

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GVD 5.2

Task 1

Concept

- Our game falls under the Bullet hell genre, and it can be played by a maximum of 2 players. They will be able to decide whether they want to compete or co-operate with each other. The gameplay consists of both characters having to dodge obstacles, pick-up power ups to sabotage or protect themselves, and collect currency to buy items from the store.

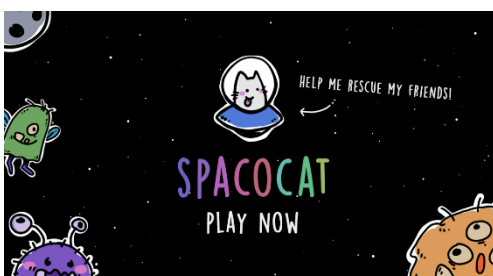
- We got inspired by Fireboy and Watergirl, Downwell, Guardian Sphere and Unrained. **Fireboy and watergirl** is a Co-op platformer, and it was the reason we went for a 2-player idea. **Downwell** is a roguelike vertical shooter platform, that has multiple palettes which we greatly liked and decided to input into our game. On the other hand, we enjoyed **Guardian Sphere** due to it being an indie bullet-hell game. The player has to basically dodge incoming projectiles while shooting them down, but the combination of shooting and dodging seemed tough, so we settled for only dodging. Lastly the interactive menu in **unrained** was super unique so we went for it instead of boring 3 button common layout.



- Since we are working in unity, we decided to look for other indie developers using the same engine. The ones that have caught our attention were Tadpole Tales by Andrew Zi Zhen and Spacocat by Awander.



Tadpole Tales is a "Clean 'Em Up" game with a fish being the protagonist and a pond to be cleaned. The gameplay consists of the player having to shoot other fishes in order to clean them. The player can upgrade the main protagonist by collecting lives, they will start as a tadpole to later evolve into a grown-up frog.



Spacocat is a mobile game about a cat in space having to face various obstacles, which will stop them from saving other cats. The only way the player can protect themselves from the obstacles is by collecting pillows. Additionally, they can purchase upgrades and customizations for the ship.

Timeline

Months	November				December				January				February			
Weeks	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Brainstorming, research, and idea idealization																
Prototyping & coding																
Creations of visuals																
Play test it																

CRC Cards

Player	
Tasks	Collaborators
Moves player sprite on input	Game manager.
Loses hp on collision / gets destroyed on collision	
Announces game over (both P1 and P2)	
Spawns second player	
Dies on collision	

Obstacle/ enemies	
Tasks	Collaborators
Is destroyed on collision	Player, Game manager.
Gets spawn every number of seconds (loop)	
Moves enemy sprites down	

Enemy fire

Tasks	Collaborators
Destroys itself on collision	Obstacle/ enemies, Player.
Gets spawn every number of seconds by the enemies	
Moves towards the player	
Moves enemy fire sprites	

Game manager

Tasks	Collaborators
Manages game state	Enemies, Score, Player, Currency, Power ups.
Creates a loop for enemies/ currency/ power ups spawning	
Keeps track of the score	
Keeps track of the player's life	
Keeps track of currency	

Score

Tasks	Collaborators
Gets points per number of seconds or gets points per enemy destroyed	Score/ currency Manager, Game manager.
Updates the score Manager	
Is displayed on screen / is attached to text sprite on game over	

Currency	
Tasks	Collaborators
Is destroyed on collision	Score/ currency Manager, Game manager.
Updates the currency Manager	
Is displayed on screen	
Is attached to currency sprite and moves it down	
Spawns every number of seconds on screen	

Score/ currency Manager	
Tasks	Collaborators
Keeps tracks of score	Game manager, Currency, Score.
Gets the score updates	
Keeps track of currency	
Gets the currency updates	
Currency gets deducted on selection (store)	
Updates text sprites on game over (score)	

Power ups	
Tasks	Collaborators
Moves power up sprite down on the screen	Player, Game manager.
Gets destroyed on collision	
Spawns every number of seconds on screen	
Updates player's script	
On collision spawn special player sprite	
Destroys special player sprite after determined number of seconds	