Game Proposal for Project 3

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Name
Star Express

Brief Description
Basically it’s a sandbox game in the outer space, in this game world, player controls a spaceship to explore the galaxies where player can accumulate its credit by accomplishing various delivery missions, credits can be used for upgrading or gadget purchases.

Detailed Description
Gameplay:
The player start with a very low credit, the final goal is to achieve a set level of credit. It's like the player runs a space delivery company which has only one spaceship. There are a few planets in the map and each planet has it's own function as gas stations, bank, gadget store, or ship construction factory where we can get ship upgraded with add-ons, etc. A minimap in a corner will be showing the locations of each planet.

There’re also enemies and/or pirates in the space that will possibly attack our ship if we get close enough, try avoid them along the way. If a delivery mission is successfully accomplished, the credit of the company will increase, the growth depends on the difficulty of the mission, a high pay mission may have more enemies and obstacles, or longer distances.

In the beginning the player can only take low-missions at the mission center (market) because of the limited ship performance, after the player got enough credit, we will be able to upgrade the ship at the construction factory. An upgraded ship will have bigger max speed, lower gas consumption, etc. Player will also be able to purchase different gadgets from gadget store to enhance its defense ability, lower the radius of enemy detection. While if the company has huge amount of debt it will go bankrupt and it will be the end of game.

Look and feel:
The scenario will be the dark space area with a tiny spaceship, with beautiful planets lying around. with very simple story line, this game is trying to achieve a casual comfortable feel, the ship moves in the space smoothly just like floating and it will be able to go whenever it wants.

Scalability Plan
The simplest version can be just a ship exploring a map, with some planets drawn on canvas, ship will be able to land on a planet. Enemies floats around randomly and will detect and attack the ship when it’s get into a circle with set radius.

If time allows more features can be added such as obstacles, credit level of star express company, ship performance configurations and different mission level settings.

Game Principles Discussion
As this game is supposed to be casual, it should be easy to get started with, so early missions should be tutorial like and very easy to accomplish. Later high level missions will introduce more difficulty with smarter enemies with simple AI.
Gadget store should carry a relatively wide range of products so the player can optimize the ship accordingly.

**Design Challenges**
Mission design can be laborious, to make the game fair and reasonable, the reward of each mission should be proportional to its difficulty, which is closely related to the AI design of enemies. It may be easy to start with static enemies in early levels.

Functions of gadgets should have certain amount of diversity, as the game won’t have exciting pieces like intensive battles, the gadget purchase strategy may be the only thing player need to think carefully about.

**Technical Overview**
This game may be built with different object interacting with each other, elements such as credit, location, maximum speed are all members of objects, it will be practical to implement.

On the basis of the simple model, new attribute can be added (like gas consumption rate), to enrich each object and make the game more fun.

**Technical Challenges**
As stated above there will be many objects representing different things in the game world, corresponding functions need to be implemented in the right way to make sure events happened correctly. Physics model may be needed if higher level of visual effect is wanted, like the handle of collision when the ship hit obstacle, both the obstacle and the ship’s position and speed will be influenced.