--project proxima

cerate a simple pytohn application of space exploration and resource gathering. It will be primarily test drivern, with AI generated imagess of planters and cretures but the navigation, combat etc it turn based and text driven.

The game starts with some cash and you start at a random starbase. From that you invested in tools to ex,plore and exploit

The galaxy is organized in layers of distance. Maybe ecotrs for immediate space , quadrants, etc. Each heirachy of distance requires more fuela nd better engines to cross the distance.

So you be gin by exploring local planets with a mininum distance then take profits and buy better to go farther and make bigger trades.

There are different things to buy adn sell:

Inforamtion - send probes to learn about distant system, then sell that information for cash (good for starting out since you don't travel yet).

Maybe the info you selling are mining rights so you can either sell or use them. Each planet has geographical lots that you can exploit or sell to otehrs but then you can't use them

So a probme might find a lot with a mineral coposition . If you need those, you might mine them, if its lame, then sell it instead.

Like a suvival game, you need the raw minerals to use machines to manafacture into something useful. Combining different minerals can selt them into other materials for crafting

or selling

You srtat with cash and debt. You can but limited tech and buy coponents to build proboes. Send these out and find propecity lots. You have no ship yet, so sell the infor

until 1) your loan is paid back (you can only borrow based on actualy cash on hand. More intest requires less cash but higer risk). Loan repayment is automatic and if you default

you cash or collateral is seized.

Probes are one use, they use up their own componetsa for energy and exploration. Beginning probes can only travel in yuor current sector. Once you'made enough money yuo can buy a

passage to planets in local sector (no ship required). So you pick yur best lot, buy passage to ge there and purchase ming robots to harvest the minerals.

The probe report is good but not perfect, you might get lucky get getter better or worse then predicted. In addition to minerals you find alien artifact, but odds are bacsed on how

much the sector has been explored.

Probes use smalled versions of each engine type and are resticted in distance the smae way

Probes came in 3 types: astronomical - reveal all planets and moons in a system with a rough planet/moon type (low mineral, high mineral, etc)

Planary: sent to specif planet, moon aor asteroid. Gives precise mineral report of lots and how many are available to claim

Plenats have status acording to how explored they are. Ranging from new to fully inhabited. Most planets in starting sectore have been discovered.

Technological levels

Different starbases offer different level of technology. You begin on an outpost at level 1-3. Also affects prices, better prices on high level tech if low level starbase/outpost

Combat

You don't land on planets but send down machines to explore or collect reqsources. You can arm them in various ways and combat is turn based. Like pokemon, each turn you take actions

and results are displayed until battle is over or you withdraw

Space hierarcy

In-System: your ship can reash any plaent using only basic impulse engines

Sector: 1 -6 system in range with warp level 1 engines

quadrant: 2-12 system in range with level 2

??: 3 - 18

??: 4-24

etc

Stats

Luck - helkps with prospecting

Science - helps with crafting

Negotiation - helps get better prices

Space Divisions

* Level 0: Galactic 8192 ly
* Level 1: Quadrant 2048 ly, 4 quadrants (64 Tetrarchy)
* Level 2: Tetrarchy 512 ly across, 16 Provines
* Level 3: Province 128ly across
* Level 4: Sector 32 ly across
* Level 5: Precinct. 8 ly across, 7-10 systems
* Level 6: Zone (System level), 2ly across one system per zone
* Level 7: Orbital,

Each level is made from 16 of the levels below, a 4x4 grid at each level all the way up to the galaxy divided into 4 quadrants. So the in total there are 64x16x16x16x16 = 4,194,304 zones/systems in the galaxy

Humans have travelled only in 1 quadrant (1,048,576 zones) and only ¼ of that is roughly mapped (262,144 zones)

Database objects

* Player assets – all the things players can acquire or build
  + Raw materials – mined, collected
  + Technology – built from raw material
  + Location Assessment – information gathered about a location
  + Plot Surveys – detail mineral report about a plot at a location
  + Deeds – deeds to plots of land at various locations
* Star System (Zone) – the area around a sun or deep space object. Parent of location.
* Locations – things you can dock/orbit around. Parent of Feature. Locations take the name of their parent and add a roman numeral. Each location has a description and an image file
  + Planet
  + Moon
  + Asteroid
  + Space Station
  + Alien Construct
  + Nebula
* Features – things found within a location. Child of Location
  + Plots – plots of land at a location owned by the player. Contains raw materials
  + Establishments – places to buy and sell
  + Ruins – abandoned habitats
  + Alien Artifact – an alien construct
  + Points of Interest – natural landmark or other things of interest

Prompt

I’d like to create a Python app that uses the PyQt5 graphics library and llama-cpp-python to talk to a local llm.

The app display will be divided into 4 panels with their height and width coming from a config file. Each panel will have a logic “widget” that controls what is displayed in the panel and each widget will handle keyboard or mouse input within its panel. Since the panels will share some common functionality they can all be based on a parent class.

The app is a space exploration game. It is turned based with the player choosing actions from the different panels and the app responding. The main app loop is responsible for keeping track of game state. The player will be exploring different worlds so will need a sqlmodel database to remember the details of every planet and star system the player visits.

A local llm will generate descriptions and details when a new planet is discovered and these will be saved to the database.

The app will be built in phases. The first phase is just the app running in a window with the 4 panels and stub widgets reading from a config file. Then later phases will add LLM integration, database integration, etc.