**DISPLAY BACKGROUND IMAGE**

**DISPLAY MAP AS SPRITES**

---Class to convert map of chars to map of tiles.

**SCREEN SCROLLING**

**NEW LEVEL STARTS PLAYER ON POSITION OF ‘P’**

* use a sf::Vector2i playerPosition to mark the player

**SHADOWS / LAMP**

**PORTALS TAKE YOU TO A NEW LEVEL**

* levels are changed by push of a button
* Change level command only available when colliding with portal.
* Every 5 levels the portal is locked – player needs to fight a boss to get a key.

**GOLD**

**VENDORS**

**ITEMS**

**TREASURE CHESTS**

**INVENTORY**

-- store as a vector of items. (map?)

-- on display, iterate through the vector of items and display in inventory GUI spot.

-- on pick up, iterate through to find first empty slot, place item there.

-- LevelMaker contains all of the items on the level.

//-- Player contains all of the items in the inventory.

* INVENTORY CLASS CONTAINS ITEMS IN INVENTORY!

**STATS BOX / UI**

-- Display player stats

-- Health Bar

**COLLISION DETECTION WITH ENVIRONMENT**

-- make a collision map:

- check if the ‘#’ has ‘.’ above it. If so, set its bounding box to allow overlap.

- else, set bounding box to whole (with edge rounding).

-- player collision detection with environment..

- use bounding box collision.

**IN GAME MENU TO CLOSE WINDOW (press escape)**

**QUADTREE IMPLEMENTATION OF TILE MAP**

* implement the quadtree
* use it to only check collisions in local area
* use it to only render local sprites

**ITEMS**

**MONSTERS**

**Monster Made**

**Monster Moves**

**Monster Collides with Environment** *(need Quad Tree)*

**Monster Interacts with Player**

**Monsters Randomly Placed**

**Monsters Animated**

**SPELLS**

**COMBAT**

* Final Fantasy style? (maybe just for big bosses)
* Fast-paced lower level combat.

**ANIMATE ENVIRONMENT**

**ROTATION OF ENVIRONMENT?**

-- On right mouse click, get the mouse position.

-- if the position is greater than the previous mouse position, increase angle of rotation.

-- if the position is less than previous, decrease angle.

-- bound at 0 and 360 (or wrap-around)

-- use Private game member variables: float rotationAngle; sf::Vector2f previousMousePosition

**BRAINSTORM:**

**Home Town / place to build house…**

**- teleport in and out of the town and dungeon**

* **farm materials and whatnot in dungeon**

**Multiple different environments**

* **also, different sets of monsters in each environment**

**(Multiple Portals per level?)**

**Interaction with characters.**

**Vendors**

**Thieves (try to take your stuff and run away)**

**Energy bar**

* **as you use abilities it diminishes**
* **it regenerates over time**

**Pits – mapmaking change (text map) – texture makes a pit shape… random mazelike path created in rectangle, fog covers the pit.**

**NEW COLLISION / MONSTER MOVE / RENDERING IDEA (implemented but checked every frame)**

Every 20 or so frames, calculate the distance from the player for each monster. If the distance is within a certain range, set the monster’s “mInSight” boolean to true. Else, set it to false. Only move and render the monsters if they’re “mInSight”.

**Abilities idea**

* A player picks from a set of abilities as they level (maybe they earn ability points as rare drops, purchases, or leveling rewards), so they can make any hybrid build that they choose. Then either using or upgrading these abilities would make them more powerful.
* Monsters will occasionally drop buffs based on the monster type. *Tanky* enemies will sometimes drop health/armor buffs, *Damaging* enemies could drop item damage buffs, etc.