The Search For
The Lost City of Paititi
Design Document – Final Project
By
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Design Plan:

This program attempts to use standard OOP style practices and meet the criteria outlined in the final project rubric. The game design features a theme that involves a text based implementation of a game where a user takes the role of an explorer who's goal is to navigate through a series of places, while acquiring a set of items that will allow the player to accomplish the goal by reaching the intended destination (I.E. the lost City) in a set amount of time.

Constants:
timer (for gameplay duration)
playerstatus (for win/lose/timer/quit)

Location (parent class for locations)
Protected:
String name
(4 pointers:)
North
South
East
West
Public:
virtual menu function
virtual status location function – passes player ptr & return status of gameplay
rolldie
Getter/setter functions for members

Sub-classes of Location:

City
- First location, features introduction
- Uses rolldie function to implement robbery and health deduction

Store
– Store has functions to buy special items

Jungle
- Checks for special items and deducts health if not found

Ruins
- special item acquired if location visited, necessary to proceed

Village
- User needs to have visited ruins, may lose by chance
  If hasn't visited ruins.

Cave
- User has to have gone to ruins, then village to acquire special item

LostCity
- Final destination, user wins if arrives at location
-Each subclass will have virtual printmenu for custom menu
-Virtual function for status/location and pass player pointer

Player

Private:
Location *location
Inventory *inventory
Int health
Int goldcoins
Public:
Getter/setter functions for members

outofTime – checks timer for duration of gameplay

PlayGame class
- Main gameplay class to implement gameplay and allow user to move through locations

Inventory class
- Uses Vector STL to store items

Main Function
- main introduction and calls gameplay begin

Testing:

This Program uses some element of random chance so it must be assumed that not every situation can be tested, however all choices that would be made by a user were tested including navigating through all menu items, obtaining items, and choosing to go to different locations in different orders was tested.

Test Case:	*Input:*	*Expected Result:*	*Actual Result:*
Set timer to 2 minutes to ensure timed gameplay works properly.	Play game for 2 minutes	Game should return status out of time after 2 minutes.	Game returns status out of time when player tries to navigate to new location after 2 minutes.
Normal Gameplay: Navigate through locations with intention of winning by playing through set rules.	Enter through menus: 1. arrive at city 2. go to store, buy machete and medkit. 3. Go to Jungle 4. Go to ruins 5. Go to village 6. Go to cave 7. Default: go to lost city.	Normal text printed to screen -50% chance to get robbed at city. Go to store, buy machete and med kit. – items added to inventory. Next go to Jungle(should not deduct health). Should get special item(stone). At village, should obtain special item(magic toad). Should go to lost city and win game.	Result as expected. 50% chance difficult to tell, but attack seems to happen about half the time.
Navigate through locations without buying any items from store	Enter through menus: 1. Arrive at city 2. go to store, buy nothing 3. Go to Jungle 4. Go to ruins 5. Go to village 6. Go to cave Default: go to lost city	Normal text printed to screen -50% chance to get robbed at city. Go to store, no items added to inventory Next go to Jungle(health deducted by random 1 - 100). Should get special item(stone). At village, should obtain special item(magic	Result as expected, game still winnable, however, if attacked at city and jungle, player may lose.

		toad). Should go to lost city and win game.	
Navigate through locations without visiting store and without going to ruins first	Enter through menus: 1. Arrive at city 2. Go to Jungle 3. Go to village 4. Go to ruins 5. Go to village 6. Go to cave Default: go to lost city	Player will most likely die after being attacked at city (50% chance), jungle, and village.	Result as expected. Player dies 100% of time.
Navigate through locations and buy necessary items from store but without going to ruins first.	Enter through menus: 1. Arrive at city 2. Go to Store, buy machete and medkit. 3. Go to Jungle 4. Go to village 5. Go to ruins 6. Go to village 7. Go to cave Default: go to lost city	Player may survive due to health being restored with med kit and not being attacked at jungle, however, most likely player will lose.	Players health is restored significantly and will survive due to medkit and wins.
Navigate through every menu at each location	Choose menu option at each location	Go to location printed on screen.	Result as expected.

Reflection:

This project was once again a valuable lesson in the importance of creating a design plan and sticking to it. I approached the design initially with a very loose idea of what I wanted to do, and in the end, I think it cost me an enormous amount of time because I found myself wanting to add features that weren't necessarily required. That being stated, I had a lot of fun doing this project, and I think I would fully enjoy doing something like this on a larger scale with a large array of other features. I think this program also helped me to cement some concepts that I'd had a partial grasp before (such as pointers, and working with objects. I'd like to get more familiar with STL's, and I'm glad we covered some different data types in this class, as I like to think I understand some of what is going on "Under the hood." I know I have a long way to go before I can say I mastered a programming language, but I think I can safely say I'm off to a good start. This class has been challenging at times, and this assignment was no exception. Ultimately, I think its challenges like this one where I truly learned the most.

Specifically, some of the initial challenges I faced while writing this program started with figuring out how to get the player object to be affiliated with the different locations/spaces. Once I figured that out I think a lot of things came to light. I think I still have a lot do of work do in terms of organization and the overall design process, but as I stated above I think I'm off to a good start.