CS 162 Final Project design doc

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The game takes place is 4X3 room with 7 types of spaces. Some spaces have vectors that hold items the player can take.

The player is trapped in a room and must find the key to escape before a hidden timer runs out.

Begin Game:

-display map, explain room to player and hint for them to approach cabinet

Enter Main Game Loop:

-player can move around the linked list room

-player can get description of spaces

-some spaces have doors that can be opened

-some spaces have items that can be grabbed

-items taken can be examined

-spaces can have items put on them

-safe space has special code interaction

Solution to game at bottom:

QuadLinked list tests

Test case	input	Expected outcome	Actual outcome
Move north	n	Players location moves north	Players location moves north
Move north past end of list	n	Player location doesn't change	Player location doesn't change
Repete for south, west, east	S, w, e	"	"
Game over after max moves	mov	Game over message displays with turn count	Game over message displays with turn count

Item vector tests:

Test Case	input	Expected Outcome	Actual Outcome
Take item	t	Item is removed from location vector and put into back of player vector	Item is removed from location vector and put into back of player vector
Put item	p	Item is removed from player vector and put into location vector	Item is put in location vector but not removed from player vector **fixed** Needed to use reference to vector on return function
Take when inventory is full	t	Error message and no item moves	Error message and no item moves

Class Hierarchy Diagram:

Base Class Space						
Cabinet -open -take -description	Floor -description	Clock -description	Safe -unique open -description	Dice Table -take -put -play -description	Stove -open -take -description	Door -unique open *requires two items*

REFLECTION:

This was definitely the most fun project in the class. Mainly because it was so open. We have made several games before, but I often felt that I had little choice in designing them because of certain requirements. However, because it was so open it was probably the second most difficult to get started on (after the langston's ant) because after I decided what I wanted to make I had to figure out how to implement it.

Once I decided how to use the 4 way linked list and vectors most of the development went well. My main problem was removing items from the players vector. After talking with a TA I found that I needed to return the vector by reference. After changing that it worked fine.

Other things that needed to be changed came from play testing. Thing like informing the player when they are trying to do something they can't like open a space with nothing to open, or play when they can not play on that space.

Another thing that I spent a decent amount of time on was the display. I'm not 100% satisfied with it but I think its understandable at least.

SOLUTION::

Expected game flow:

Move to cabinet

Open cabinet

Take note

Move to clock

Examine clock

Move to stove

Open stove

Take dice

Move to table

Take note

Put down dice

Move to safe

Put in first code

Put in second code

Move to door

Leave

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Shortcut Method:

Move to safe

Input first code 247 (from dice rolls)

Input second code 516 (from upside down digital clock 91:2)