Mayflower Project

Objective

You will create a side scrolling game with several interesting features using the Mayflower library.

Expectations

Your project should include the following features (these will be explained in more detail as listed in the timeline)

- An animated Actor, controlled by the user, that can move around the screen:
    - walk
    - idle
    - fall
- A 2d array is used to map tiles to the screen
- Multiple Worlds are used
    - Title Screen
    - Multiple Levels or large levels split across multiple Worlds
    - Game Over Screen
        - You win screen
        - You lose screen
- Display score on screen
- Items are scattered throughout the world
    - earn points from collecting items
- Ability to Jump and/or climb Ladders
    - including Jump/climb animation
- Display health / lives on the screen
- Hazards that reduce health of player
    - Water / Spike floors
    - Enemies that move around

Remember, this is NOT a graphics design course.

DO NOT SPEND ALL OF YOUR TIME MAKING GRAPHICS OR FINDING THEM ON THE INTERNET.

Use class time writing amazing JAVA CODE and debugging problems… not making amazing graphics.

You do not earn points by having AMAZING graphics.
Yes, they are nice, but not needed! Add them at the end.

Timeline

Day 1   Move around on screen w/ animations (walk, idle, fall)
                 Use 2d array to represent map

Day 2   Switch between multiple Worlds
- title screen
- multiple levels
- Game Over screen (you win)

                 Display Score
                 Earn points from picking up items

Day 3   Jumping and/or Ladders

Day 4   Hazards (water/spike floor, enemies, traps, etc…)
                 Display Health / lives
                 Game Over Screen (you lose)

Day 5   Finishing touches / Big Fixes / Practice Presentation

Day 6   Presentations

Presentation

You will have 5 minutes to present your project to the class using screen sharing. Your presentation should include the following:

- Show the game play
    - Play for a minute or two. You don't have to *beat* the game
    - Show the features you implemented
        - picking up items to earn points
        - jumping / climbing
        - hazards
        - Game Over screen (win or lose)
- **Create a slideshow for your presentation** (see rubric for what to include!)
    - Show interesting algorithm in code and explain how it works / what makes it interesting
        - The algorithm should be something **you** came up with to solve a problem that was not solved in a previous lab
            - Each person will show an interesting algorithm.
        - What was the challenge you were trying to solve
        - What other methods could you have used?
        - Why did you choose your solution over the other possible solutions?
- **Your final project must be saved on the student drive at**

H:\CSIII\Project1

Rubric (scored out of 26) – This gets you 90%.

	0	1	2	3	4
Overall Code	Code does not compile or run.	Runs without error.	Runs without error, has proper indentation.	Runs without error, has proper indentation, and is mostly commented	Runs without error, has proper indentation, and is commented appropriately
Interactability	Actor cannot be moved around screen.	Actor can be moved around screen, but is not animated.	Actor can be moved around screen and is mostly animated	Actor can be moved around screen and is full animated in one direction	Actor can be moved around screen and is fully animated (walk, idle, fall) in both directions (facing left and right)
2d Array of Tiles (does not include Title & Game Over Worlds)	There are no tiles on the world	Tile locations are hard coded	At least 1 world is populated using a 2d array	Most worlds are populated with tiles using 2d arrays	Each world is populated with tiles using 2d arrays
Multiple Worlds	Only 1 World is used	Title Screen, 1 Game Play World, and Game Over world	Title Screen, 1 Game Play world, 2 Game Over World (win, lose)	Title Screen, 2 Game Play worlds, 2 Game Over World (win, lose)	Title Screen, >2 Game Play worlds, 2 Game Over Worlds (win, lose)
Items & Score	There are no items and score is not displayed	Score is displayed on screen	Score is displayed & items are located on World	Score is displayed, items are on world, picking up items increases score	Score is displayed, items are on world & increase score, (some) items are randomly placed and they *cannot* overlap each other.
Jumping / Climbing	Player cannot jump or climb ladders	Player can jump or climb with no animations	Player can jump or climb with animations	Player can jump AND climb with animations for either of the actions	Player can jump AND climb with animations
Hazards & Health	There are no hazards & health is not displayed	Health is displayed.	Health is displayed and at least 1 type of hazard is added to World	Health is displayed and hazards cause health to decrease	Health is displayed, hazards cause health to decrease, if health is <= 0, show Game Over screen
Presentation	Did not present	Presented. Did not show algorithm.	Presented. Was not able to explain algorithm	Presented with pretty good explanation of algorithm	Presented with excellent explanation of algorithm

If you want 100%, you must WOW the teacher and the class.
Add something that no other group has done and isn't on the rubric!