COMP2007 - Game Development

Week 1 - Code Exercises

Random Level Generation

- Use a walker algorithm to place prefabs for a grid based, random generated level

Step 1 - get “Random” project from DLE

Download and open the Unity project called “Random” on the DLE in the “Week 1” section

Step 2 - test the algorithms

Open and look at the contents of the scene “Random”
This scene contains all of the algorithms you can use
You have to select one of the walking algorithms from the “Random” scene to use in your Level designer
Use one of the following algorithms:

- Step mover
- Step array mover
- Step percentage mover
- Step curve mover

NOTE: do not use the step vector probability algorithm

Step 3 - open the exercise scene

Open and look at the contents of the the scene called “Exercise”
The GameObject “Random Level Designer” has a Component called “RandomLevelDesigner”
The GameObject has been setup with a prefab to place a level block

Step 4 - add algorithm code to your class

Make sure the “Exercise” scene
Open the “RandomLevelDesigner” C# class in visual studio
Fill in the RandomLevelDesigner class with the algorithm code
The algorithm classes have “Regions” containing the code you require:

- RANDOM VALUE FIELD
- RANDOM NUMBER GENERATION
- ALGORITHM

Copy the code from each region of the algorithm class to your level design classes regions

- Copy the “RANDOM VALUE FIELD” code into your class's “RANDOM VALUE FIELD” region

Week 1 - Art Exercises

Design process exercise - Asset pack brainstorm

Choose a theme from the following options:

- Medieval
- Cyberpunk
- Pirates
- Green hills
- Hell
- Vikings
- Modern day
- Victorian times

From the theme, research and name 3 non-character items that would fit into the theme

1. Purpose (brainstorming)
    a. Use a notepad or a Mindmap
    b. What is their purpose in the world? Why would it fit into the theme?
    c. Man-made? What does it do?
    d. Nature? Is it animal/mineral/vegetable?
    e. Other? What does it do?
2. Shape (visual concepting)
    a. Create a small moodboard for each item
    b. Use any images found online
3. Colour (visual concepting)
    a. Find an appropriate colour pallette for each asset
    b. Use the existing mood board images OR Kuler or other colour palette tool
    c. Provide a swatch of 3-5 colours

User story mapping exercise

Take one of your brainstorm ideas and apply a set of user stories to it
Use a document with a table or a spreadsheet for your ideas

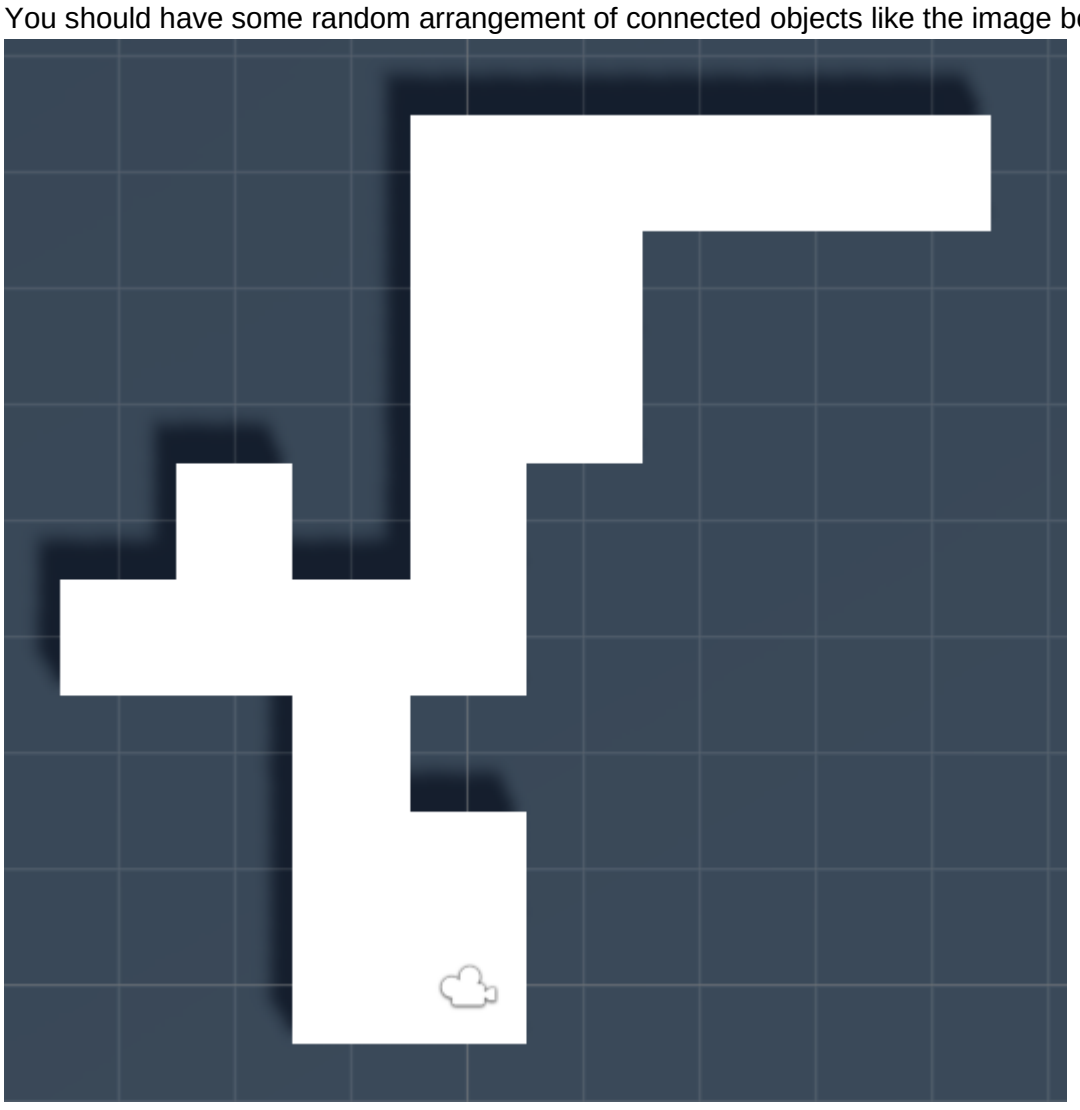
Example scenario
“In my forest theme, I have lots of Oak trees that sway in the wind as the player passes by, leaves fall from the tree and they can hear the leaves rustling, trees are solid objects in the game, the player cannot climb or walk through them”

Example user story map

In the forest theme there are many Oak trees	They are solid objects in the game world	They sway in the wind	Leaves fall from the branches occasionally	Can hear leaves rustling when close by
Oak trees research notes	Unity Tree component (creates trunk/leaves models)	Integrate a wind component	Leaf particles	Leaves rustling sound FX
Oak tree mood board			Integrate a unity particle system	Integrate a unity audio source
Oak tree colour pallette				
Leaf texture/normal				
Bark texture/normal				
Prefab of tree asset				

Test your class!

You should have some random arrangement of connected objects like the image below:



GAME DEV. TECH.

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