Shuyuan Zhang

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Academic Background

University of Edinburgh 2020 - 2024
BSc (Hons) Computer Science

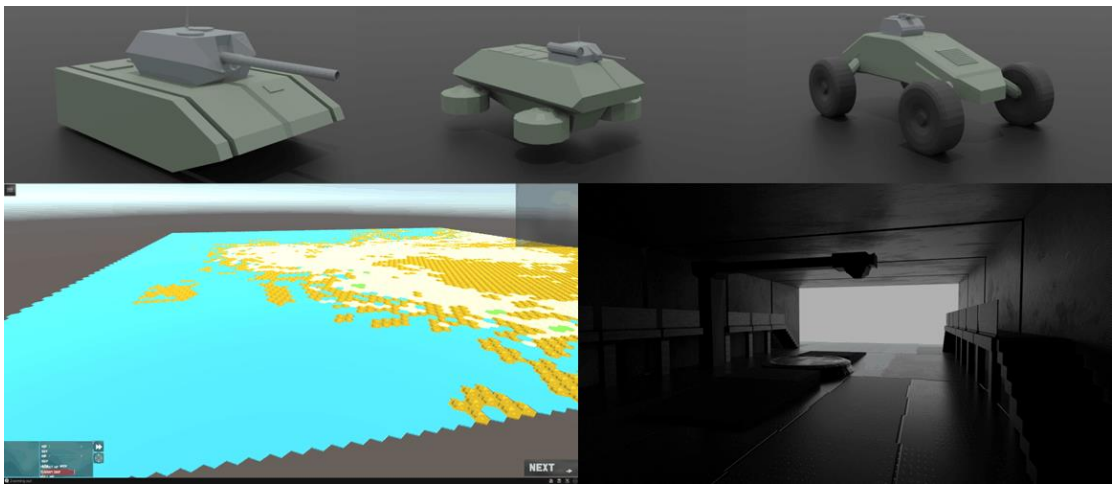
Game Development Experience

Gameplay Demo, *A small scale and simple game*
Unity

- Game-feel Experiments
  Followed the talk on Game-feel to create a basic third person shooter.
- 3D Models and Music
  Used Blender to create the models used in the game. Used Garage Band to create the background music of the game.
- WebGL
  Published and hosted the game as a WebGL build on a GitHub Page.

Battle Chess Game, *A small, personal, team project aimed at learning Unity*
Unity

- Data Analysis
- Real-time 3D Model Composition
  With the support of json data, the game is able to freely combine 3D models to construct player's vehicles.
- Map Conversion from any photo
  Able to convert any picture into a map in the game.

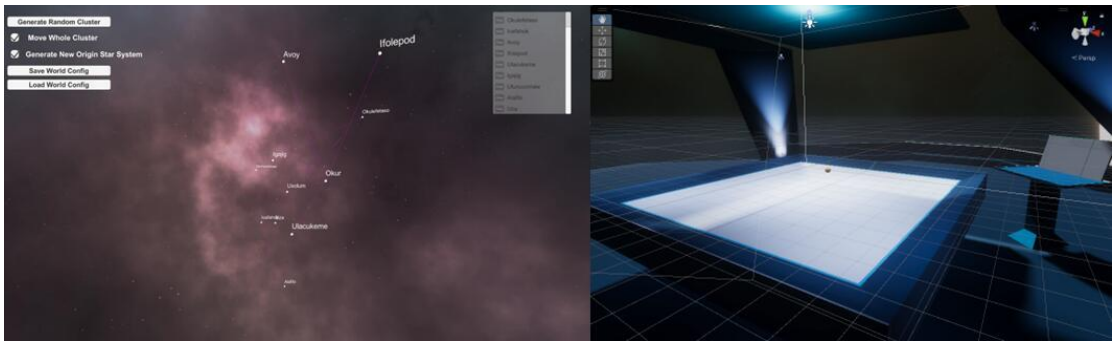


Concept Demonstration: Concept renders in Blender, the models are then exported to Unity. With the support of Json data specifying parent and child positions, the components can be freely combined. The map is generated from a user-imported photo, using a automated mapping for RGB colours to corresponding tile types predefined in the game.

Starmap Editor, *A graph based galaxy map editor*
Unity

- Algorithmic Generation of Star System Clusters
  Implemented an algorithm to generate clusters that are uniformly random and reasonably connected.
- Core Functionality

Originally a function of a "world" editor for sci-fi backgrounds, turned into an independent system with focusing less on cluster generation but more on detailed editing of fewer star systems.



Left: Random Cluster Generation, with necessary functionalities like moving, renaming and save/load.
Right: A more detailed editor for star systems, under refactoring.

Trainee, *Tencent Games Open Course*
Unreal Engine
Topics including rendering, communications and network, physics, AI, animation.
Realized that a lot of previous work on Unity can be done using standard pipelines, and thus the importance of "standardization" of work flow.
Competition, *Tencent Game Development Competition, Higher Education*
Unity

- Multi-role
  As one of the two programmers and one of the artists in the team of 6, created the main framework for the game and continuously contributed codes, while also creating loads of 3D models with baked textures in Blender.
- Thoughts
  A small team cannot compete from the aspects of the richness of the game, but can grab players' interest using a few core gameplay mechanisms. Personally, one is motivated to explore the possibility of AI technologies changing the situation.

Related Skills
Unity
Practical experience. Understands the difference between Component based design and Object-oriented design and their respective advantage/disadvantages.
Blender
Modelling experience mainly focusing on hard surfaces. Exports models to Unity and solved related problems, such as different coordinate systems. Writes Python scripts with the bpy library to automate the process of generating tank models and rendering side views.

Game Experience
Rainbow Six: Siege, *NUEL and NSE*
Captain of Edinburgh Eclipse Team 2 of R6S, in the E-sports society of the university.