Product Brief: UniSim

Did you ever wish that your university was just a tiny bit different? Why is the cafeteria up there? Why is there only a computer room two blocks down the street? It sure would be nice if they had made it more the way you always imagined!

You are to build a single-player game that allows the player to build their own university campus. Specific features include:

- You will be constructing a university campus from scratch, placing various buildings and activities.
- The game will last 5 minutes, but will start paused and will allow you to pause at any time.
- Your primary objectives are:
    - Ensure you make a campus with what is needed for it to operate correctly.
    - Ensure the campus is not just functional but also intuitive and fun for students to be at.
    - Maximise student satisfaction over the game time, by reacting to planned and unplanned events accordingly!
- Your game must contain:
    - A map to build the campus on. While the map does not necessarily need to be a realistic mirror of a location in the UK, it should make sense and have some limits to how buildings can be created (for example a lake or a hill or existing roads, where some/no buildings can be placed).
    - At least one placeable building that students can use to attend courses. For example, a lecture hall, a CS building (containing lecture halls, labs, etc.), or a university library.
    - At least one placeable building that students can use to live and sleep. For example, a student accommodation building.
    - At least two placeable buildings or areas where students can perform recreational activities (within the map boundaries).
    - At least one placeable building that students can use to eat. For example, a university restaurant, or a building containing lecture halls, labs and a restaurant (like the Piazza building).
    - At least three events which happen during the course of the game. These can be positive events which help you with your satisfaction, negative events which will need to be mitigated against if possible, or neutral events which may be misinterpreted by the player as mattering, while they do not!
- You ‘win’ the game by achieving the best student satisfaction you can when the five minutes is up:
    - Building location and interaction with other nearby buildings can be key for calculating satisfaction. These are some examples:
        - Is the accommodation nearby the lecture halls?
        - Is food available nearby, or do students have to take a bus to eat lunch?

        - Are the areas for recreational activity in the middle of campus, or at a nicer area near a lake or trees for a change of scenery and relaxation?
    - Reacting to the events which come up during the game appropriately. Sometimes the correct reaction is to change nothing, sometimes it may be to dedicate time for moving a building, or adding a new one to take advantage of the situation!

- While the game lasts 5 minutes, it is aimed at simulating a long period of time for the university. This can be around 3 years, but could be more/less if fun/interesting events fit a different timescale.

Constraints

You are building a game that should be playable and enjoyable by your cohort. However, there is a stakeholder that you must also accommodate.

The customer: one of your lecturers will play the role of a customer who is interested in eventually trying to market and sell your game. Ultimately the customer is the person you must convince of the validity of your assumptions and decisions. This stakeholder can be contacted as often as you need and at any time (but do not expect an instant reply!).

Use of 3rd-Party Libraries, Tools and Assets

You are encouraged to use appropriately-licenced (see the Intellectual Property lecture for details) 3rd-party libraries (e.g. a game engine like libGDX or jMonkeyEngine, a JSON/object mapper library if you need to store structured data), tools (e.g. graphical level/map editors) and assets (e.g. images, textures) where possible, instead of implementing everything from scratch.

Assessment 1

For Assessment 1, you are only required to implement one of each building location (one place to sleep, one place to learn, one place to eat, one recreational activity), a tracker of the time the game lasts (up to 5 real-world minutes), and a simple counter denoting how many of each building have been placed so far.

Assessment 2

For Assessment 2, you are required to implement the full product brief.