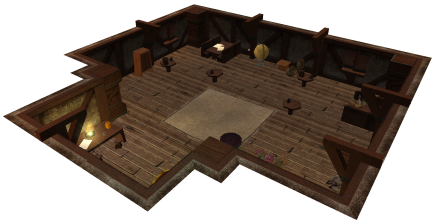
DV1659 2023 — Assignment 3 (1HP, G-U)
Visualizations in Game Analytics

Deadlines	according to Canvas
Submission	Individual PDF uploaded to Canvas

You are working for the videogame development studio "DeltaVictor1659" and your task is to create a visualization tool that will help the game designers of the new point and click adventure game "VizGuild". This game takes place in a fantasy world. The player is a rookie wizard who has to solve puzzles and riddles to find the ancient book of magic of the VizGuild. The book was stolen by the dark wizard of a rival Guild. Each level of the game consists of an indoor setting, like the room showed in Figure 1. Inside each room there are many objects. The player can interact with some of these objects that will help him/her to solve the puzzles and move to a new room (hence a new level). The only way for the player to understand if he/she can interact with an object is to click on the object.

(a) 2D map of Room 6



(b) 3D view of Room 6

(c) 3D view of Room 6

Figure 1: Example of game environement: Room 6 (Level 6), each level of the game consists of a room.

Your collegues game designers suspect that some of the levels of the game are too difficult. They want you to help them understand if a game level is too difficult by creating a visualization tool that track and show some players' behaviours. The game designers tell you that they are mostly interested into the **"click" events** (e.g. how many times a player performs the click action, when, where...) and the **time** spent on each level (room). The game has 10 levels (hence 10 rooms).

For this report, you should **design a mockup of 2 visualizations: 1 non-spatial visualization and 1 spatial visualization** to help the game designers (no code implementation required). Draw the mockup visualizations with whatever tool you like (e.g. gimp, paint) or on paper, then add a figure of each visualization in the report. In the assignment page in Canvas you have also the three screenshots of Figure 1 than can be useful for the mockup of the spatial visualization. In the text of your report you should describe each visualization by discussing the following:

A) Define the type of visualization, e.g. what is the type of charts? (e.g. lecture 4 and 9)

B) Describe if the visualization is static or interactive and **motivate** your choice.

C) Analyze briefly your visualization. What type of data is showing? Describe the elements of your visualizations and **motivate** your choices, for example specific colors or colormaps (e.g. lecture 3), marks and channels (e.g. lecture 4). How can your visualization help the game designers?

Since it is required to design just a mockup of your visualizations, it is not necessary to have very good quality pictures, the most important part is the text of the report and your discussions, hence the description of both visualizations should be very clear. You can relate your analysis to any lecture material presented so far during the course and existing literature on visualization. This assignment is not strictly related only to the "Visualizations in Game Analytics" lecture. Any found case of plagiarism with have disciplinary consequences.

Written Report

You should submit your work as a written report (a **maximum** of four (4) A4 pages as a PDF).
You should include your name and the date in your report.
The report should include at least two figures, one for each mockup visualization.
Make sure to reference any sources you use. The references included in the lectures slides and the recommended reading section in Canvas can act as a starting point.

Report Presentation

The written report should be presented and discussed during a group seminar. Each student will have 10 minutes to present their work to the class followed by a 5 minute of collegial discussion.

Grading

The grade that you receive is dependent on the following criteria: visualizations design, visualizations analysis and style and layout. Table 1 shows what it is expected for each criteria categorizing the level in "Very Good", "Satisfactory", and "Insufficient".

The report will be graded:

- G: if ALL three criteria (visualizations design, visualizations analysis and style and layout) have reached at least a Satisfactory level, i.e. "Very Good" or "Satisfactory".
- UX: if only ONE of the three criteria has been graded "Insufficient". The student will have the opportunity to fix the report usually within 15 days and resubmit.
- U: if TWO or more criteria have been graded "Insufficient". The student must wait the next deadline to submit a new report.

Table 1: Grading Criteria

Criteria	Very Good	Satisfactory	Insufficient
Visualizations Design	Both visualizations meet the requirements of the users (game designers).	At least one of the two designed visualization meets the requirements of the users.	Designed only one visualization. Both visualization are out of topic and do not meet the requirements of the users.
Visualizations Analysis	In-depth analysis discussing properly ALL points (A,B,C) for BOTH visualizations and including several examples of how theoretical concepts of visual perception and visualization techniques are applied in the designed visualizations.	Proper analysis discussing ALL points (A,B,C) for BOTH visualizations. The analysis includes at least **two different** examples of how theoretical concepts of visual perception and visualization techniques are applied in the designed visualization (one for each visualization).	Some (not all) points have been answered. Poor analysis including many theoretical mistakes and not enough examples of how theoretical concepts of visual perception and visualization techniques are applied in the designed visualizations.
Style and Layout	Well written report (spelling, grammar). Good logical structure, it makes easy to follow your thoughts. Good synthesis. Several proper references are included. Including both visualization mockup screenshots. The figures have proper caption.	Acceptable language processing. The text is understandable. Somehow consistent logical structure. Including both visualization mockup screenshots. The figures have proper caption. Some proper references are included.	The text contains many spelling or grammar errors and it is difficult to understand. Missing mockup screenshot. The figures do not have caption. Not including any references or including unrelated references.

Note: Assignment written by Valeria Garro. The room in Figure 1 has been created with BioWare's Aurora Toolset.