CO1301: Games Concepts

Worksheet 1 - Introduction to the TL-Engine

Getting Started

Game Program Structure

* The TL-Engine wizard provides you with some initial source code, don’t delete it – it is useful!
* You can run the program code already – press the play button (near the top)
* But you will only see an empty scene because no models have been added
* This template source code contains the instructions to start up and shut down the game engine
* It also has two sections for you to work in:
* The **Game Set-up** section
* The **Game Loop** section
* After the Game Engine has started we need to prepare everything needed for the game.
* First we need to load all the game objects - primarily 3D models, but also sprites, sounds, fonts etc.
* Then we need to set the initial positions & settings for all the objects. e.g. position all the 3D characters and objects, set initial statistics (like health or armour), etc.
* We also need these steps to reinitialise objects whenever the game is restarted
* The template code provides a general game structure for your project.
* A game displayed in the same way as a film or animation.
* A sequence of static images (called frames) is displayed very quickly.
* Objects change position very slightly from frame to frame.
* The viewer does not perceive the separate images, and instead sees an animation scene
* This is achieved by the Game Loop
* At every iteration of the loop, a static image of the scene is drawn
* Then the objects are moved slightly (if necessary), and an updated image of the scene is drawn
* This process repeats as long as the game is running
* So all games have, at their core, the same basic program structure:
* The key sections that you will need to fill in are the *Game Set-up* section and the *Game Loop* section.

Writing C++ Code

* We need to introduce some C++ features to use the TL-Engine: and a style called “object-oriented programming”.
* We will not introduce these features formally yet (you will be taught them later as part of another module), but they are the standard in games development so it is important to get used to them early.