**Object-Oriented Programming Mini-Project Requirements**

**Project Title:** Event-Driven Software-Accelerated Communication

**Project Author:** Jakub Straszewski (T00225338)

**Developmental Intentions:**

* Demonstration of the concept of communication between components of a graphics processing unit (GPU) through an intermediate driver with a top-level graphics application.
* The main method of demonstrating the message of the application involves a software abstraction of hardware, OS and software components.
* The project will use files and I/O to emulate the communication between the GPU and software by exchanging information through them.
* The architecture of the file system employed will be event-driven and will ensure parallel processing between the components. Each group of components may be assigned a particular file or group of files which will serve as event broadcast media.
* Software rasterization and management of pixels will be involved in the transfer of the rendered image to the user of the top-level application.
* The top-level application will be a GUI application which will display an image and interface to interact with the image, which will be animated faster due to the parallel processing of the underlying architecture.
* The bottom-level application will represent a GPU component responsible in this case for generating values for pixels in the GPU framebuffer.
* The high-level and low-level applications will communicate reciprocally using a single driver application which will process and manage I/O.