**GEP Report**

**Introduction**

This report goes over the creation of my own game engine, Unbelievable Engine 6. It will cover the key features of my game engine, including resource loading, a basic collision system, an audio system and an input handling system. My game engine demo game has an interactable block which plays an audio and disappears when touched.

**Research**

The research I undertook for this project was

**Research and References**:

* + Detail any **research** you undertook while developing your game engine.
  + Include **references** to existing work, algorithms, and mathematical solutions you used.
* **Architecture and Design**:
  + Describe your **engine architecture** and the design decisions you made.
  + Use **diagrams** (e.g., UML class diagrams, flow diagrams) to illustrate your architecture and technical decisions[2](https://edgeservices.bing.com/edgesvc/chat?udsframed=1&form=SHORUN&clientscopes=chat,noheader,udsedgeshop,channelstable,ntpquery,devtoolsapi,udsinwin10,udsdlpconsent,udscstart,cspgrd,&shellsig=d37103d7082c967a99e05e59bcdcf6dcf95bfd31&setlang=en-GB&lightschemeovr=1&udsps=0&udspp=0#sjevt%7CDiscover.Chat.SydneyClickPageCitation%7Cadpclick%7C1%7Cbbd472e2-ff7c-4fa2-a864-37c0fb6d2d61).
  + Justify your design choices compared to existing industry game engines[3](https://edgeservices.bing.com/edgesvc/chat?udsframed=1&form=SHORUN&clientscopes=chat,noheader,udsedgeshop,channelstable,ntpquery,devtoolsapi,udsinwin10,udsdlpconsent,udscstart,cspgrd,&shellsig=d37103d7082c967a99e05e59bcdcf6dcf95bfd31&setlang=en-GB&lightschemeovr=1&udsps=0&udspp=0#sjevt%7CDiscover.Chat.SydneyClickPageCitation%7Cadpclick%7C2%7Cbbd472e2-ff7c-4fa2-a864-37c0fb6d2d61).
* **Features and Integration**:
  + Explain the **features** your engine provides and how they interact with other components[1](https://edgeservices.bing.com/edgesvc/chat?udsframed=1&form=SHORUN&clientscopes=chat,noheader,udsedgeshop,channelstable,ntpquery,devtoolsapi,udsinwin10,udsdlpconsent,udscstart,cspgrd,&shellsig=d37103d7082c967a99e05e59bcdcf6dcf95bfd31&setlang=en-GB&lightschemeovr=1&udsps=0&udspp=0#sjevt%7CDiscover.Chat.SydneyClickPageCitation%7Cadpclick%7C0%7Cbbd472e2-ff7c-4fa2-a864-37c0fb6d2d61).
  + Discuss the **integration** of subsystems and components, especially if you reused parts from other units.
* **Code Quality and Standards**:
  + Ensure your code is **consistent**, well-commented (using Doxygen), and adheres to industry standards.
  + Demonstrate the use of **version control** (e.g., Git) and an industry-standard build system (e.g., CMake)[4](https://edgeservices.bing.com/edgesvc/chat?udsframed=1&form=SHORUN&clientscopes=chat,noheader,udsedgeshop,channelstable,ntpquery,devtoolsapi,udsinwin10,udsdlpconsent,udscstart,cspgrd,&shellsig=d37103d7082c967a99e05e59bcdcf6dcf95bfd31&setlang=en-GB&lightschemeovr=1&udsps=0&udspp=0#sjevt%7CDiscover.Chat.SydneyClickPageCitation%7Cadpclick%7C3%7Cbbd472e2-ff7c-4fa2-a864-37c0fb6d2d61).
* **Analysis and Conclusion**:
  + Provide an **analysis** of your project, identifying strengths and weaknesses.
  + Conclude with a **summary** of your work and potential future improvements.

**References**

This report goes over the creation of my own game engine, Unbelievable Engine 6. It will cover the key features of my game engine, including resource loading, a basic collision system, an audio system and an input handling system. My game engine demo game has an interactable block which plays an audio and disappears when touched.