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| **Creative Computing & technology**  **Individual research Project Proposal 2018/2019** |
| * **Student name: ANON** * **Student number: S1234567** * **Date: 18/09/18** * **Course: Computer Games Design** * **Preferred mentor: Andre Van Rooijen** |
| * **Objectives of the proposed study (including provisional title)** * **Provisional Subject: (Not more than 20 words.)**   An investigation into modular workflow for building environmental assets suitable for computer games.   * **Research Question:**   What are the advantages and disadvantages of utilising a modular workflow when creating environmental assets?   * **Objectives:**. * Research and evaluate modular workflows within the games industry. * Conduct a thorough review of appropriate academic literature into modular workflow. * Determine guidelines for implementing modular workflow. * Create a modular building kit using industry techniques. * Design a scene in Unreal Engine using the created assets. |
| * **Justification for the Research**   The problem that is being investigated is that of ‘Is there a more effective workflow compared with current industry methodologies. Jones (2011) notes that there are conflicting methodologies that can confuse developers. EpicGames (2012) recommend modularity when creating levels for Unreal.  This research and it’s results are important to the production of assets for games industry effectively, whether they are a solo independent developer or a AAA studio (Perry 2002).  The impact of this problem is multifaceted and includes inadequate time distribution (resulting in loss of work hours); ineffective use of resources resulting in larger file size & poorer product performance overall; and finally limited or even single use of assets created (Burgess, 2013). |
| * **Example References:**   Burgess, J. (2013). Skyrim's Modular Approach to Level Design. [Blog] *Gamasutra*. Available at: <http://www.gamasutra.com/blogs/JoelBurgess/20130501/191514/Skyrims_Modular_Approach_to_Level_Design.php> [Accessed 18 Sep. 2018].  EpicGames (2012). *Using Workflow Techniques and Modularity*. [online] UDN. Available at: <https://api.unrealengine.com/udk/Two/WorkflowAndModularity.html> [Accessed 18 Sep. 2018].  Jones, S. (2011). *Investigation into modular design within computer games*. Undergraduate. Staffordshire University.  Klafke, T. (n.d.). CREATING MODULAR ENVIRONMENTS IN UDK. [Blog] *Thiago Klafke - Environment Artist*. Available at: <http://www.thiagoklafke.com/modularenvironments.html> [Accessed 18 Sep. 2018].  Mader, P. (2005). Creating Modular Game Art For Fast Level Design. [Blog] *Gamasutra*. Available at: <http://www.gamasutra.com/view/feature/130885/creating_modular_game_art_for_fast_.php> [Accessed 18 Sep. 2018].  Perry, L. (2002). *Modular Level and Component Design*. 1st ed. [ebook] San Francisco: Game Developer magazine, pp.30-35. Available at: <https://api.unrealengine.com/udk/Three/rsrc/Three/ModularLevelDesign/ModularLevelDesign.pdf> [Accessed 18 Sep. 2018]. |
| * **Practical design:**   The plan to achieve the research objectives is to use effective research techniques to discover and learn industry methods of creating modular assets, place the methods in to action resulting in a fully modular environment kit being created and finally using the finished kit to design and develop a final scene that will demonstrate a comprehensive understanding of modular assets and their accompanying workflow solutions.  The final scene will include but is not limited to the modular environment assets created, additional props to help frame the scene and break up repetition, as well as texture modification and vertex painting.  The scene will not include playable or non-playable characters, it will not include gameplay elements such as missions or HUD (Heads Up Display). |