

Cole Andrews
User Interface Design II
Final Project Proposal

Unreal Engine Website

For my final project, I plan to create an informational website on the game development engine Unreal Engine, specifically version 5. The website will cover basics such as use cases, statistics, and general information. My goal is to provide a centralized location for prospective users to learn whether this is the right game engine for them, and potentially in the future have some basic guides and references.

The **Spatial Contiguity Principle** states that users learn better when related words and images are displayed nearby, rather than far from each other. I'll make sure to utilize text placed near images, with a connecting line, to indicate relationships and better convey information. This will be especially useful as some of my images may have a multitude of information, and having text nearby will help reduce confusion and aid in learning.

Additionally, I will be following the **Multimedia Principle**, which states that users learn better with a mix of words and pictures are used, rather than from text alone. A practical example of this would be having body text that references the engine's fee and an associated graph that reflects the text. By using this combination, I will increase **germane cognitive load**, which is the mental effort necessary to process helpful but non-essential information for improved comprehension.

Tesler's Law states that there is a certain amount of innate complexity built into essential content. Additionally, I will need to consider the amount of **Intrinsic Cognitive Load**, which is the mental effort required to understand or process essential information, my project contains. In both cases, the only way to manage them is by using **Chunking**, which is the act of grouping elements into smaller more manageable units making them easier to grasp. An example of how I might use chunking in practice would be grouping the key art features of Unreal Engine while having a second group of programming features.

An important factor to consider here would be the user's **Schema**, which is our cognitive structure that organizes and interprets information. The foundation of our schema comes from our **long-term memory** due to it being built from memories. In this sense, chunking elements with little to no relation may confuse the user's schema rather than aid in learning. Taking this into consideration, I'll need to put myself in the user's shoes and contemplate how they may perceive certain components to ensure they match the user's theoretical schema.

Miller's law is a psychological principle that says the users can usually only remember seven, plus or minus two, items in their **Working Memory**. Working memory, also referred to as short-term memory, allows for the temporary retention of small amounts of information. With this in mind, I will ensure that my content does not exceed nine steps with the goal of averaging seven.

Moreover, to optimize learning I will apply the **Coherence Principle** which states that users learn better when extraneous or unnecessary words, pictures, or other elements are omitted. To account for this, I'll focus only on relevant information, removing filler text or images that aren't used intentionally.

The **Signaling Principle** recommends utilizing cues to help give the user an understanding of how the information is organized. Taking this into account, to help signal to users which step they are on I plan to use section headers and a list of covered content at the start of each overview.

According to **Jakob's Law**, websites should look and function similarly to prior websites users have interacted with. I plan to place the navigation bar at the top of the page with the home button located on the left side and the navigation buttons on the right. Additionally, I will utilize navigation arrows on both sides of the screen to allow users to navigate between sections. By following these standard practices, also known as conventions, I will reduce the user's **extraneous cognitive load**. Extraneous cognitive load is the amount of effort used in the working memory to deal with information that is considered useless.

Hick's law says that the time it takes to make a decision is increased with the amount and complexity of choices. This means I will need to keep the number of items users can interact with to a minimum so they can more easily make decisions. These elements should also inherit from **Fitts's Law**, which states that the duration it takes to locate a target is a factor of the distance to and size of the target. In other words, when creating my project's UI, I'll need to ensure that buttons or other elements are large enough and well-placed so users can quickly and easily access them, but also be kept to a select few to not increase the time it takes to select.

The **Law of Proximity** is another psychological principle that states that objects spatially close together are likely to be perceived as a group. I will consider the Law of Proximity by placing information headings and descriptions close to one another for each overview. Because of their proximity, users will perceive them as a group and thus understand their correlation.

In this sense, grouping elements with little to no relation would confuse the user rather than aid in learning. Taking this into consideration, I'll need to put myself in the user's shoes and contemplate how they may perceive certain components as related to ensure the grouping/chunking of the content matches the user's schema and expectations. This directly correlates to the **Serial Position Effect** which refers to how individuals tend to remember the items toward the beginning and end of a list.

The **Von Restorff Effect** states that when multiple objects are similar, the one that is most visually distinct is most likely to be remembered. I will take advantage of this

by bolding key information in my body text so that it is visually different from other text.

The **Zeigarnik Effect** is a psychological principle that says users are most likely to remember unfinished or interrupted tasks. I will consider the implications of this by adding pagination at the bottom of my slides. This pagination will indicate to the user how many sections they have remaining before finishing the overview.