Project B: Japanese Architectural Visualization

For the final project in this course, you will create your own interactive two-story multiroom architectural visualization for the Japanese commercial market using the Unreal game engine. You will collaboratively work with Japanese students on the design and layout of the building. In this architectural visualization, you will demonstrate the interactive design elements of designing room layouts with walls and doors, positioning objects in a 3D space, first-person-style movement, interacting with items, and environmental lighting. You will use the keyboard and mouse to move and interact with the environment. In addition to the interactive environment, you will create a cinematic walk-through video of the environment using Unreal's cinematic cameras.

The goal of this final project is to have a two-story multiroom commercial environment that is designed for someone in Japan to live, work, or study in. The space will have to demonstrate the architectural and culture needs of the Japanese consumer. Examples of this type of environment includes, but are not limited to, are community centers, shrines, schools, tea houses, game centers, dojos, hotels, office spaces, shops, cafés, and restaurants.

Within the interactive environment, you will be required to enable the movement around between rooms and interact with elements that can switch on like light switches, doors, computers, or TV screens. The multiroom environment can will be designed by your classmates in Japan and then implemented by you using the Unreal Engine. This environment will include a combination of indoor and outdoor areas because you will need to be able to move inside and around the environment and move between the levels of the structure using stairs or an elevator.

While the design of the interactive environment should be unique and created by you and your classmate in Japan, you are allowed to use assets and models from the Unreal Marketplace and other 3D model websites. At the end of the semester, you will be presenting your interactive architectural visualizations to the class and faculty in Japan.

Project Phases:

> *Phase 1: Meet your classmates and faculty from Japan that you will be working with.*
> *Phase 2: Research modern Japanese architectural styles and requirements.*
> *Phase 3. Virtually collaborate with your Japan classmates on the requirements*
> *   for the layout.*
> *Phase 4: Develop an interactive visualization of the design the Japanese students*
> *   created for you*
> *Phase 5: Virtually collaborate with your Japan classmates to review and test the*
> *   interactive visualization*
> *Phase 6: Final presentation of the architectural visualization for Japanese faculty*
> *   and students.*

Student Learning Outcomes 1, 2, 3, 4, 5, and 6

In this final project, you will utilize a first-person-style camera view within a 3D environment. You will be responsible for the creation of the layout and design of the environments. The camera will be using an automatic first-person-style camera in the Unreal Engine. Stock models or asset libraries that can be downloaded from the internet or from the Unreal marketplace can be used. You will be required to interact with the elements in the environments you will design for both projects. The steps to create the interactive elements in the rooms can be sourced from the projects that are in the textbook and the examples given in class.

You will submit work-in-progress video demonstrations of the environments to Blackboard for review by the Instructor and your classmates.   For the final submission, due to the size of the Unreal projects, you will need to make a submission to the on-campus Teacher's Space.

Your responsibility for this project is to create an original and functional interactive experience. You will be graded on both the interactive features, usability, and design of the environment. Additional requirements and details for this assignment will be posted on Blackboard.