Cabin in the Woods (Real-Estate)

Genre: Simulation, first-person

Project Summary

Immersive Studios has been hired by a real estate firm to build a prototype of an application that will provide a way for potential property buyers to view an island property that cannot be easily accessed for inspection.

Objectives

The purpose of the simulation is to provide potential buyers with the opportunity to view a remote property (a small cabin in the woods on a small private island) that has been listed for sale with the client's company. Users will be able to walk through a 3-D model that replicates the property as accurately as possible, navigating by interacting with a series of nodes that act as navigational waypoints. The application must also provide users with information about the property and land that is for sale via the use of digital notes that are scattered around the 3-D environment.

Supplied Resources

The "RealEstate_WoodsCabin" Unity Package provides a scene that contains all a 3-D replica of the land and property for sale. Only the area around the cabin has been populated with relevant visual assets. Lighting has also been generated for the scene. Additional modifications to the existing scene will need to be confirmed with the client before being implemented. You are responsible for generating or sourcing all other assets including sprites, audio, and extra 3-D models. Assets used from a third party must be published under the CC-0 'public domain' copyright license.

The Unity package also provides all of the scripts required to implement the core functionality.

Gameplay

Core Mechanics

First-person camera

The player is to have control over a simple first-person camera controller that will allow them to look around the virtual environment. The camera should have appropriate sensitivity and drag values, and also be vertically clamped so that the player's viewport is prevented from inverting.

World Interactions

The player will need the ability to interact with two different types of objects in the virtual environment – navigation waypoints and digital tooltips. When an interaction is available, the crosshair will indicate this by changing colour.

Navigation waypoints are indicated by particle effects and are used to move around the scene by looking directly at them and pressing the left mouse button. An audio clip will play when they move

to a new waypoint, and the particles for the waypoint they are currently positioned at will be disabled until they move to a new waypoint.

Digital tooltips are placed around the scene and are indicated by a UI icon that exists in 3-D world space. When the player interacts with them an audio clip will play and the icon image will change to display a background image. Some text must overlay the background image, which will describe a selling point of the property. Only one tooltip can be active at any time, and active tooltips are deactivated when the player moves to a new navigation waypoint.

Specifications

Platform

The application is to be developed for desktop computers (PC) that run on the Windows operating system. A web-compatible build will also need to be produced that has been confirmed to be operational with the Google Chrome and Mozilla Firefox browsers.

Visuals

3D Models

You have been provided with all of the necessary 3-D assets as well as a completed scene file that integrates them. Any potential modifications to the provided 3-D assets or scene file will need to be confirmed with the client.

User-Interface

The user-interface should be constructed so that it maintains a full high-definition resolution (1920x1080) between varying screen sizes. The following assets will be required for the user-interface.

- Tooltip icon image (world-space)
- Tooltip background image (world-space)
- Tooltip text font (world-space)
- Crosshair image (screen-overlay)

The tooltip descriptions are defined as follows.

- “The cabin comes completely furnished and consists of 1 bedroom, 1 bathroom, and a living area with an open kitchen.”
- “Uses renewable solar energy as the primary power source for the property.”
- “Includes a working fireplace to help keep warm during the colder months of winter.”
- “The open kitchen includes a pantry, a fridge, a gas-powered stovetop, and a fan-forced oven.”
- “The cabin is completely plumbed, including a working bathroom with a shower and toilet.”
- “Includes one bedroom that is large enough to comfortably house two adults for long-term stays.”

Audio

Audio assets for the following gameplay events will be required.

- Move to navigation waypoint position
- Interact with tooltip (activate/deactivate)
- Looping island ambience

Control Scheme

Game Mechanic	*Input Mapping*
Camera control	Mouse movement
World interaction	Click left mouse button
Quit application	Escape key

Unique Gameplay

The following list details a range of unique optional mechanics/gameplay elements that have not yet been implemented into the project. It is a requirement that you implement ***at least one*** of the following unique gameplay mechanics.

Mechanic	*Description*
Tooltip audio commentaries	An accessibility feature that plays an audio commentary that corresponds with the descriptions of the digital tooltips. The commentary should automatically play when the tooltips are activated, and automatically stop playing. Audio commentaries should also stop playing automatically when the corresponding tooltip is deactivated. A UI element indicating the commentary is playing must also be displayed while commentary is active, and automatically disappear when it finishes.
Navigation waypoint selection menu	A UI element that can be toggled on or off via an input, that contains a list of options that correspond with the navigation waypoints in the scene. When the player selects one of the options, they automatically move to the corresponding navigation waypoint.
VR-compatibility	The game will need to be modified so that a virtual-reality compatible build can be created. The functionality will all need to be modified in order to successfully implement the virtual reality compatibility. Meet with the client to confirm the specifications for VR integration.