Motion sensor games development using Xbox Kinect, Android TV & mobile phones

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Project Overview

The aim of this project is to create a 3D adventure game combined with motion sensing control. With the help of Kinect, players can control the actions and movements of in-game characters through different body motions, allowing players to fully immerse into the game environment.

The objective of this project is to promote the Hong Kong University of Science and Technology, especially the campus environment. We will build some models of the HKUST campus. Besides this, some educational elements will be included in the game so as to provide some intangible assets to the player.

Methodology

Kinect will capture the motion from the player and then transfer to MS Kinect SDK through USB interface. The information will be translated to Unity3D by OpenNI middleware. The Unity3D will have several plugins for computation. The Unity3D is the main part of the whole game.

The motion from the player will be captured by the Kinect through the Sense process. After that, this information will send to computer for computation and used as an input of the game.

This game is a 3D adventure. With the help of a famous game engine Unity3D, the logic and programming parts of the game are written in C#. Some models and animations are created using the tools in Unity3D.

The models of some parts of HKUST campus, which are used as the game background, are designed through Autodesk 3Ds Max 2015.

Result

The product of this project is a first-person 3D adventure game. Player can control the in-game player to complete the quests. Since its view is first-person, player can fully immerse into the the in-game character acting. The combination of motion sensing and first-person adventure game can enhance the reality of the role play in the game.

In this project, we build some models of the HKUST campus including the Hong Kong Jockey Club-Asia, the Sundial, Academic Records and Registration Office and Electronic Engineering Laboratory. The game environment therefore can provide a real image to the player who does not visit HKUST before. Besides that, some jokes like Sundial known as Turkey, the area of laboratories looking like a maze will also be included in this game so that player will have another view on the culture of HKUST.