Project concept

The purpose of this concept is to create a promotional solution for a trade center with the use of augmented reality technology, to attract people to the shopping center. An example of such an implementation: http://www.youtube.com/watch?v=D0ojxzS1fCw

Description

The equipment will be installed in the following manner: A screen is placed in the center of the hall. Cameras attached to it. The video stream is displayed on the screen.
Audio system plays the sound. Operated from a pc.
A marker is placed (glued) on the floor in front of the camera. The appearance of a person on the marker serves as an indicator of the start / stop of the script.

A person stands on the marker, the camera reads changes in his sceleton and the application sends a signals to start/development of the script. 3D animation is displayed on the screen, next to the image of the person. If a person leaves the marker, the script continues to run until the end, but a new script does not start.




Hardware

Projector
Projection screen
Visual Camera

Movement capture camera (Kinect)
PC
Sound
Marker

Software

Core:
- Unity 3D
- 3ds Max
- something else (like Kinect SDK etc.)

Technology

For this project to We have to develop an application using Unity3d pro that would track the appearence of a person on a marker and would add 3D models into a scene, and animate them accordingly to the persons movements. For the initial implementation we requires an application that recognizes only 3 instances:

- the appearance of a person on the marker (if multiple - identifying the main)
- putting his hand up
- a person leaving the marker

Then the application will send commands to Unity 3D, which will animate scenarios (a separate file). In the future, the number of recognizable gestures / movements will grow.

Concerns:

- the integration of skeleton capture cameras with visual cameras.
- the amount of light in the room that may effect the correct work of kinect.

Graphics

For each virtual object, we have to create a 3D model, and then animate it. At the first stage of the need to create a model of a dinosaur and animate it's necessary movements. (registered in scenario 1. Or we can start with just scenario 1c). Objects should be similar quality, as in the image.

There are following assets necessary for modeling and animation:
- Dinosaurs. Many kinds. Walking around, roaring, eating, playing.
- Lions. Walking around, growl, laying nearby.

- Natural. Tornado, storm. Is activated when a person appears on the marker.
- Aliens. Walk around the visitors, scan.
- Ninjas. Repeats the movements of the person on the marker.

Steps (just for us)

Unity 3D installation (our team)
GitHub project creation and sync (?)
Application Development (Christian)
Testing (Christian)
Testing on location (our engineer)

Requirements & Proposal creation and approval. (Val and Christian)
Detailed timing of the project (Val)

3D graphics scope and pricing (our team)
Modeling or Purchasing (our team)
Animation (our team)
Integration to the app. (Christian)

Equipment purchase (PC, Kinect, Visual Camera, Screen, Projector)
Office installation (our engineer)
Spot installation (our engineer)
Support (our engineer)