Augmented Reality Game

Concept of Operations

COP 4331C, Fall, 2015

Team Name: Project Pals
Team Members:
- Eric Peralli - Eric.peralli@gmail.com
- Connor Heckman – Connor.heckman@me.com
- Clayton Cuteri – Cuteri.clayton@knights.ucf.edu

Version	Date	Who	Comment
V0.0	09/17/15	Connor Heckman	Original CONOPS
V1.0	09/17/15	Eric Peralli	Formatting Errors Fixed

Contents of this Document

- The Current System
- Needs
- User and Modes of Operations
- Operational Scenarios
- Operational Features
- Expected Impacts
- Analysis

The Current System

Most augmented reality applications on the smartphone market are navigation based (i.e., direction prompts displayed via the application or using the phone's camera to find discounts and offers at stores). We will be creating an action based augmented reality game (in the style of a first person shooter). There are precious few of these action based augmented realities games available on the current market, but the current system isolates users and has poor or nonexistent networking between application users.

Current System:

- Mostly single player based
- Simplistic UI
- Direct flow upon launching the app (lack of customizable modes)
- No tutorials, learn as you go
- Singular theme

The Proposed System: Needs

- Networking between users of the application
- Heads up display while in game
- Indirect flow, menu to allow for customization of experience (light settings)
- Tutorial for new players upon download
- Multiple themes for a diverse experience
- Scoreboards and achievement type system
- Variety of enemies per theme (progressing difficulty)

The Proposed System: Users and Modes of Operation

There will one be one type of user, and several modes of operation. The different types of modes of operation are the different styles of gameplay, which includes a tutorial mode, single plater mode, and multiplayer mode. The tutorial mode will teach users the fundamentals of the game. The single player will allow players to play the game without sharing and competing scores with other players. The multiplayer mode will incorporate score sharing capabilities.

Mode of Operations:

- Tutorial
- Single player operation (no networking)
- Multiplayer (competitive mode)

The Proposed System: Operational Scenarios

- Tutorial Scenario – The user has launched the game for the first time, and the tutorial begins to play
- Single Player Scenario – The user has completed the tutorial and can now launch the game normally. In single player mode, the user is playing to increase their local score and unlock themes
- Multiplayer Scenario – The user has completed the tutorial and can now launch the game normally. In multiplayer mode, the user is playing to increase their global score and unlock themes
- End Game Scenario – The user has exited the application
- Collision problems
- Problems with networking interfering with single player

The Proposed System: Operational Features

Must Have:

- Networking between users of the application
- Multiple themes for a diverse experience
- Variety of enemies (rising difficulty/sense of progression)
- Scoreboards and some sort of achievement system

- Indirect flow, initial start menu for technical options

Would Like to Have:

- Heads up display while in game (health bar)
- Tutorial for new players upon download
- Social media status updates
- Challenges to issue between users

The Proposed System: Expected Impacts

- Increased customization of mobile games
- Larger interest in the commercialization of artificial reality devices

The Proposed System: Analysis

Expected Improvements:

- Better focus on competition between users
- Larger target audience due to variety of themes
- Sense of progression achievement system
- Sense of community (social aspect)

Disadvantages:

- Singular platform
- Cyclical play, could become repetitious
- Active gameplay required (have to swivel camera around)
- Have to use public domain video game market

Limitations:

- Inability to integrate true multiplayer mode (no PVP)
- Network effect on enjoyment of game
- Hardware limitations

Risks:

- Limitation of market
- Obscures user perception

Alternatives and Tradeoffs:

- Avoiding the development fee in mac
- Trade security and quality of app store for numbers in google marketplace