

Games as a Facilitator for Social Networking and Team Building

Rachel Brinkman

rbrinkm1@uncc.edu

Graduate advisor: Eve Powell

empowell@uncc.edu

Thomas Phifer

thomasphifer@gmail.com

Christie Thornton

cnthornt@uncc.edu

Advisor: Dr. Tiffany Barnes

tbarnes2@uncc.edu



Lead Designer and
Programmer:

Rachel Brinkman,
Grove City College

Quality Assurance Lead:

Thomas Phifer, Winthrop University

Art Lead:

Christie Thornton, UNC Charlotte

Introduction

This summer in the Games and Learning Lab, we designed and implemented the game Table Tilt, which is a multiplayer game written for the iPhone and iPod Touch platforms that facilitates networking in a conference setting.

Project Motivation:

There is a need for more communication and long-term networking between conference attendees. This project is particularly focused on increasing long-term communication between members of the STARS Alliance, because currently there is very little interaction between students of different schools outside of the conference setting. The goal of this project is to use games as a facilitator for increased long-term interaction.

Project Overview:

Table Tilt is a multiplayer game for the iPhone and iPod Touch platforms. It supports two, four, or six networked devices, and together all of the screens make up one large game screen. The players stand next to and across from one another in order to make up this large screen (Figure 1). Several balls and holes of different colors are randomly placed on the screens. The basic game mechanic is tilting the device, which causes the ball to roll in that direction. When the ball reaches the edge of the screen, it will roll onto the screen of the adjacent device. The goal of the game is to get all of the balls into the correct holes on all ten levels. The game session only lasts two minutes, so it is a very fast-paced environment.

The objective of Table Tilt is to provide an informal and fast-paced game environment that requires players to work together to achieve a common goal. In this way, the game lays the groundwork for continued interaction at the conference, and taken in conjunction with our other social networking game, Snag'em, it will increase long-term interaction between conference attendees.



Figure 1 – Six Player Game Board

Preliminary Research:

We first developed a simple application for the iPhone in order to become accustomed to Objective C and OpenGL. The app included tap and multiple touch point registration as well, so that we could evaluate our different input options.



Figure 2 – Preliminary OpenGL iPhone Application

Networking Design Decisions:

We selected Bonjour as our service discovery protocol due to its native support on the iPhone, and also because it supports WiFi. Since the iPod Touch does not have Bluetooth support, it was important to use WiFi, so that we would not alienate that platform.

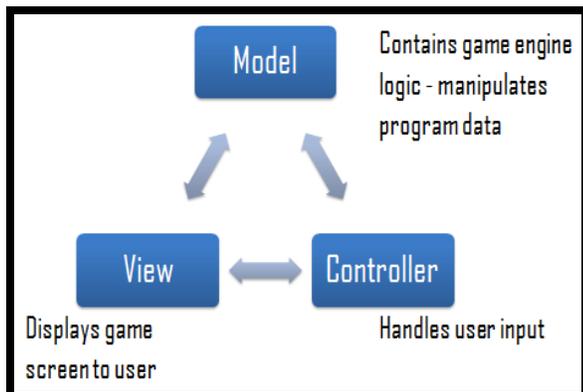


Figure 3 – System Architecture

Tradeoffs:

The Bonjour service discovery protocol is a substantial bottleneck in the system. To mitigate the problem, each device does as much individual calculation as possible, and the server only sends out data when absolutely necessary.

Study:

The user study will be conducted at the STARS Alliance conference this August. The conference attendees will take a short survey at the beginning of the conference to determine relevant information such as gender, age bracket, gaming interests, outgoing/introverted, and how many contacts they already have outside of their own school.

Every night of the conference before dinner, each table will have an opportunity to form a team of four or six people to play a game of Table Tilt. The points accumulated during the game will be put toward each table member's individual Snag'em score. There will also be mixed teams, where half of the team comes from one table, and the other half comes from a different table.

At the end of the conference, the members will take a second survey to report their impression of the game; whether or not it was fun, helpful for networking, and other suggestions on how to organize teams and playing times.

Conclusion:

TableTilt is a multiplayer game for the iPhone and iPod Touch platforms. The game provides a fast-paced environment in which people can meet one another and network in an informal setting. The goal of the system is to use the gameplay as a tool to facilitate increased long-term interaction between conference attendees.

Acknowledgements:

Distributed Research Experiences for Undergraduates

Mentor: Dr. Tiffany Barnes

Graduate mentor: Eve Powell