

Group: 3D'S  
Project: Media Server  
Document: Project Plan  
Date: January 24 2005

## 1.0 Introduction

### 1.1 Project Overview

We will create a server application to stream DVD/CD content to a client on a home network. We will also develop a recommendation system to keep track of viewing habits and make viewing recommendations based on this information as well as user input (i.e. I want to watch a comedy tonight). The media is stored on various hard drives throughout the network.

The products included are: a customized database application that stores and serves a user's viewing history, as well as media information. A streaming server that will stream the specified media upon request. Finally a client program that interfaces with the recommendation system, the media database and the appropriate streaming server.

### 1.2 Definitions, Acronyms, and Abbreviations

Client Application: The system that the user interacts with to interact with the recommendation system, request media, and play back the streaming data.

Database Server: A server that runs a database containing information on movies, music files, and local media location.

IMDB: A website (<http://www.imdb.com>) that maintains a great database full of movie information.

Media: A movie or music data file.

Media Player: A program (implemented by a third party such as Windows Media Player) to play the media sent to it by the streaming server.

Recommendation System: A system that we will design, to make a good decision on what to recommend if a user would like the system to suggest a movie or an appropriate music playlist. This will analyze current preferences (i.e. I want to watch a comedy tonight) and the user's previous viewing practices to make a recommendation.

Streaming: The transfer of large amounts of data over a network. The receiving computer will then display the data, while it is coming in rather than saving it all.

Streaming Server: A server that streams media from the local hard drive to any other computer.

Session: A session consists of a user starting the client program, logging in, either picking some media, or having one recommended, and enjoying the media.

### 1.3 References

IMDB: <http://www.imdb.com>

Java: <http://java.sun.com/j2se/1.4.2/docs/api/>

Microsoft MFC Library:

<http://msdn.microsoft.com/library/default.asp?url=/library/en->

[us/vclib/html/\\_mfc\\_Class\\_Library\\_Reference\\_Introduction.asp](us/vclib/html/_mfc_Class_Library_Reference_Introduction.asp)

<Streaming stuff>:  
<Media conversion tool>:  
<Media Player>:  
<Database server – MySql>:

## 1.4 Overview of Document

In Section 2, we discuss what needs to be done, who will be responsible for each section of the project and how we plan to measure our progress. Section 3 outlines our group, showing our strengths and weaknesses, and outlines how we choose who manages the various parts of the project. Section 4 contains an user-friendly description of the project.

## 2.0 Project Organization

### 2.2 Organizational Structure and Responsibilities

Baring unusual circumstances, our leadership will remain the same throughout the course of the project. For each role, there will be a primary and a secondary, who will be assist should the primary be unavailable or overwhelmed.

Tasks include:

Project Leader: The overall leader for the project.

Website Coordinator: Responsible for website design and maintenance.

Schedule Coordinator: Responsible for keeping track of member's schedules and for scheduling additional meetings, and a month by month schedule.

Document Coordinator: Responsible for ensuring documents are begun, finished, handed in on time, and correctly formatted.

Network Leader: Responsible for defining and implementing network API between the various applications.

Database Leader: Responsible for defining the database schema and queries.

Recommendation Leader: Responsible for defining the recommendation heuristics.

UI Leader: Responsible for generating an user friendly and intuitive user interface.

Quality Assurance Leader: Ensure our product is of good quality.

Source Code Librarian: Responsible for managing and backing up the source code library.

Drew: Primary: Project Leader, UI Leader

Secondary: Website Coordinator, Source Code Librarian

Dave: Primary: Schedule Coordinator, Recommendation Leader, QA Leader

Secondary: Project Leader, Network Leader

Danny: Primary: Website Coordinator, Source Code Librarian

Secondary: Database Leader, Document Coordinator,

Steve: Primary: Document Coordinator, Network Leader, Database Leader

Secondary: UI Leader, QA Leader

### 2.3 Organizational Boundaries and Interfaces

Prof. Henderson: Advise us on how to improve just about anything. Follow up on us to ensure we meet our commitments. Project Manager and/or boss.

Prof. Hollaar (who taught Digital IP Law): To advise us and ensure we operate within the bounds of the law.

### **3.0 Team-specific aspects**

#### **3.1 Management Objectives and Priorities**

Each person will be assigned tasks and follow up will take place during each of our scheduled meetings. We want to have an open management style where suggestions and input are expected from each member of the group, and the group respects and considers the input given by others. The purpose of the management is to have a single person who is responsible for the follow up.

#### **3.2 Team name**

The name of our team is, "3D'S". This is a parody on the acronym 3D. Three of us have preferred names that start with D (Drew, Dave and Danny), and S is for the final member of our team, Steve.

#### **3.3 Possible Meeting Times**

Recognizing the complexity of this task, we have a designated Schedule Coordinator. The times that our entire group can meet are:

M	1:50 - 7:00
W	1:50 - 4:00
F	1:50 – 4:00

Though we can't often meet as an entire group, there are many times when 2/3 members of our group can meet. A full schedule is located on the project web page.

We meet with Prof. Henderson on Wednesdays from 3:25 to 3:35

### 3.4 Team's Range of Skills and Experience

We used the suggested scale: 1 = very experienced, 3 = some experience, 5 = no experience.

	Drew	Dave	Danny	Steve
Project Design	1	2	3	2
Java	2	1	2	1
C/C++	1	2	3	2
Sockets	2	2	3	1
HTTP	3	4	3	2
Databases	3	4	3	1
HTML	3	3	1	2
AI	4	2	4	5
Communication	3	1	2	2
Working with Children	2	1	1	3
Self Motivated	1	2	1	2

### 4.0 Preliminary Sketch of Project Requirements

#### 4.1 Overview of Functional Requirements

The software will have an interface which a user can use to request a movie or music to be played. It will also interact with a media player (ex: Windows Media Player) to play the movie/music. Parts of the software that the user won't see directly are as follows: The movies/music will be stored on various computers in the house that are all linked by the home network. One computer will orchestrate the storage of all of these movie/music files and, when found, transfer control to the computer that has the desired file which will send the movie/music to the user's computer.

#### 4.2 Overview of Data Requirements

Inputs:

- 1- The DVDs and CDs that will be stored on the home network.
- 2- What movie to watch or what criteria needed to recommend a movie to watch.

Stored Data:

- 1- Past viewing history
- 2- Media file locations
- 3- Media information (Actor, Genre, Rating, etc...)

Outputs:

- 1- Recommendations for movies to watch.

2- Streaming media into the computer.

### **4.3 General Constraints, Assumptions, Dependencies, Guidelines**

There must be a high-speed home network installed.

All computers providing services (database server, or streaming servers) are running when the system is in use.

There is sufficient hard drive space to save the desired media.

We will use Windows Media Player to play the streaming media, which will limit the system to Microsoft Windows.

Due to copyrights, we may have some limits imposed on us.

### **4.4 User View of Product Use**

The user will start the client application and identify themselves through a login (so we know whose viewing history to reference and update). They can either choose to use the recommendation system, or to select media from the available list. Finally they can watch/listen to the media via Windows Media Player.

### **Appendix A: Change Control Plan**

Changes involving a single module implementation can be approved by the module leader. He is responsible for informing all affected parties. Larger changes involving design or module interfaces can be temporarily approved by the group leader, and must be approved in the next group meeting to become permanent.