

Group: 3D'S
Project: Media Server
Document: VVP
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1. Introduction and overview

1.1 Purpose of this Document

The Verification and Validation plan is a guideline to ensure the project objectives are met and tested for correctness in a systematic manner.

1.2 Scope of the Development Project

We are developing a media server that will store media (DVD/CD content). This will only operate on a home network with windows machines. The amount of media stored is dependent on the network's free hard drive space.

There is a recommendation system to help indecisive viewers decide on what movie they wish to see or music to listen to.

Some benefits are that you can store the media on any computer on the network. Since you won't be using the actual disks they can be safely stored and media becomes readily accessible.

1.3 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.

SPSG: *Software Programming Survival Guide*

1.4 References

SDS.pdf: <http://www.cs.utah.edu/~sharwood/SDS.pdf>

SRS.pdf: <http://www.cs.utah.edu/~sharwood/SRS.pdf>

1.5 Overview of Document

Section 2 defines our interpretation of Reviews, Walkthroughs, Inspections, and Audits. Section 3 is a general description of correctness tests for each component. Section 4 describes testing for the whole system. Section 5 outlines the defect tracking plan. Section 6 outlines the correlation between the SDS and the SRS. Section 7 shows tests for all requirements. Section 8 outlines acceptance tests.

2. Reviews, walkthroughs, inspections, and audits

Inspection/Audit – Performed by Professor Henderson during staged releases using recommended checklist (from SPSG)

Review – Performed by the Component Leader using an ad hoc process.

Walkthrough – Performed before all Inspections and Audits, where compliance to predefined specification by examination and testing of the code.

3. Component test plans and procedures

3.1 Component test strategy overview

Testing process: Component Leader is responsible for testing of major functions using a testing suite that they have provided. Module tests are also performed by the Component Leader and reviewed by the group. Entire system is tested as part of the walkthrough process.

Items or components tested: All components (Client Application, Database Server, Streaming Server, Recommendation System, Media Conversion Tool.)

Constraints: We will initially be dealing with a small set of media and partial functionality (not all modules will be fully implemented for initial releases) functionality (not all modules will be fully implemented for initial releases)

3.2 Client Application

It is expected that all button will do as advertised (i.e. implied by the label). At any point the program can be exited using escape or the close or “x” button. Ensure that all calls to database server and recommendation system are properly executed and their output is correctly parsed.

3.3 Recommendation System

Ensure that all calls to the database server are properly executed and that the output is correctly parsed. Ensure the system responds correctly to improperly formatted input.

3.4 Streaming Server

Ensure that all three HTTP methods (PUT, DELETE, GET) are implemented correctly for situations when the requested file exists on the server as well as when it doesn't. Ensure the server responds correctly to other valid HTTP methods that are not implemented by the server. Ensure the server responds correctly to malformed requests.

3.5 Database Server

Verify that extractions are correct. Ensure inputs/modifications to the database occur correctly. Ensure that all queries are correctly formed.

3.6 Media Conversion Tool

Ensure that all buttons behave as expected. Ensure that the tool responds correctly to missing information. Ensure the media is correctly converted. Ensure extraction from IMDB is performed correctly.

4. System test plans and procedures

4.1 System test strategy overview

See 3.1

4.2 System test case descriptions

Test the system using the persona story outlined in SDS section 2.3. The exact times and media referenced in the story need not be used however the usage pattern will be followed.

5. Defect tracking plans

Defects will be logged in the project history. A plan for the correction of all defects will be devised under supervision of the Project and Component Leaders. Corrections will also be logged in the project history.

6. Traceability Matrix from SRS to SDS

	SDS	SRS
Client Application	3.2	3.2.4
Recommend System	3.3	3.2.5
Media Format Conversion	3.4	3.2.1, 3.2.3
Database Server	3.5	3.3.2, 3.2.4
Streaming Server	3.6	3.2.3, 3.2.6
Network Interface	3.7	Implicit in all IPC

7. Test-requirements cross-reference matrix

ID	Description	Test Method	Comments
3.2.1	Convert media	Inspection	Convert then check for correctness
3.2.2	Storage of media location	Test case	Tests insertion removal and modification of media location
3.2.3	Find storage location	Test case	Provide simulated input and test for expected outputs
3.2.4	Maintain user profiles	N/A for know	
3.2.5	Make Recommendations	Inspection	Check for reasonable results for given input
3.2.6	Stream media	Inspection	Request media and verify that it is sent.

8. Acceptance test and preparation for delivery

8.1 Procedure by which the software product will be acceptance tested

All tests will be performed and any failures or anomalies will be handled according to the defect tracking plan (see Section 5).

8.2 Specific acceptance criteria

A usage pattern similar to that described in section 2.3 of the SDS will be run. The results will be evaluated for compliance with the above stated test requirements (see Section 7).

8.3 Scenario by which the software product will be installed

Not yet defined. It will vary for each release.

9. Additional information

None at this time.