

CENG 492
SENIOR PROJECT
Test Specification Report

InnovationTech

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1. INTRODUCTION

1.1 Description of This Document

This document is a Test Plan for the InNoClass. The document describes the testing strategy and approach that InnovationTech used and will use to validate the quality of InNoClass.

2. TESTING SCOPE

Outlined below are the main test types that will be performed by the project group.

2.1 Module Testing

First, each program module is tested as a single module, isolated from the other modules in the system. It will be verified that the module functions properly according to the module design.

Module testing of each module is done individually by the team member responsible from that module.

2.1.1 Module Testing for Client and Server Modules

Firstly, it is tested whether the connection between server and client is successful or not by testing opening and closing of sockets, input and output streaming, sending and receiving packets. After the connection between a server and client was verified, the connection between the clients was tested. After covering connection errors, disconnection of clients from server was tested.

As a boundary condition, the cases of unsuccessful connection and disconnection are considered.

2.1.2 Module Testing for Chat Module

Firstly it is tested whether the messages written in the text field are sent to the text panel area or not in global chat and private chat interfaces individually by testing the action listeners. Then sending and receiving of chat packets were verified.

2.1.3 Module Testing for Audio/Video Module

Hardware testing was done for the webcam and microphone. Capturing of video and audio data from webcam and microphones was tested. After that, broadcasting of video and audio and receiving of this rtp data was validated.

How the module behaves when webcam or microphone is not available is considered as a boundary condition.

2.1.4 Module Testing for Whiteboard Module

Firstly, drawing of each object was tested. Then testing of sending and receiving these objects through the network was performed.

It is tested whether the coordinates of the objects is within the boundary of the buffered image.

2.1.5 Module Testing for Polling Module

First of all, preparation and sending of a poll will be tested. Responding to the poll and gathering results of a poll will be tested afterwards.

2.2 Integration Testing

When we are satisfied that individual program modules are working correctly and meet established objectives, we combine the modules into a working system.

After combining modules, functional testing was applied in order to guarantee if each module does its functionalities as required. Synchronization of audio/video and whiteboard modules was taken into consideration. In case of a failure of audio/video module, such as when there is a problem with webcam, the proper running of other modules were guaranteed.

2.3 Performance Testing

After all the modules are completed and integrated, we will do the performance testing. When there are more than one user connected to the system, time spent carrying out certain functions of the system is assessed. How fast audio and video is transmitted will be tested.

3. TEST STAFFING

Aslıhan and Mesude were responsible for the development of Client and Server modules. The module testing of these modules was carried out by them during coding phase.

Birsen and Gülistan were responsible for the design of GUI. They also made the testing of GUI.

Gülistan was responsible for the development of Chat module and module testing of this module was performed by her.

Birsen was responsible for the audio/video module and module testing of this module was done by her.

Songül, Mesude and Aslıhan were responsible for the whiteboard module. Module testing of this module was performed by them.

Songül is responsible for the polling method and module testing of polling will be done by her.

The whole team will be responsible for the integration and performance testing of InNoClass.