Interface for Subjective Experiment Assessment of Video Quality

User Guide

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USER GUIDE

Welcome to the Interface User Guide! This manual is designed to help you use the application correctly. This guide provides information about the necessary previous considerations you have to take account for designing your subjective experiment, flow execution step-by-step and the main files that application generates and their meaning.

About the Interface

Multimedia Processing Group has developed this application for supporting the new proposed methodology for subjective assessment for video quality. Application is available for everyone that is working in this research area.

Getting Started

Download and Installation Progress

Interface has been implemented in Java language. Moreover, it uses JMF (Java Media Framework), a Java library that enables video to be added to our Java application. Video formats supported by JMF are AVI, MPEG, and MOV.

Therefore, you can execute the interface only if you have installed Java and JMF in your computer; Oracle official page provides the JMF Software ([1]) and Java Platform ([2]). Firstly you must install Java, then JMF; if you don´t follow this order, you will have troubles executing the application.

Once you have the Java environment, you can execute the file called "Subjective_Experiments_Interface.jar" to begin the experiment.

Configuration

A key aspect in the design of this subjective experiment is the use of a default nomenclature in the organization process of all videos that will be evaluated. In the next subsections, the concrete naming is necessary to use in each case is presented.

Mapping Directories Names

Several sessions compose the experiment and each of them is characterized by a bitrate decrement. Every video set that composes each session must be included in a directory as the following:

SessionN

where *N* is the number of session between 1 and *NumTotalSessions*.

Mapping Sequences Names

The name of sequences in every session must be a concrete one to ensure the correct application running. According to lots of digits that the number of sequence has, the filenames of each sequence pair will be, considering AVI video format:

file00Na.avi	*file0NNa.avi*	*fileNNNa.avi*
file00Nb.avi	*file0NNb.avi*	*fileNNNb.avi*

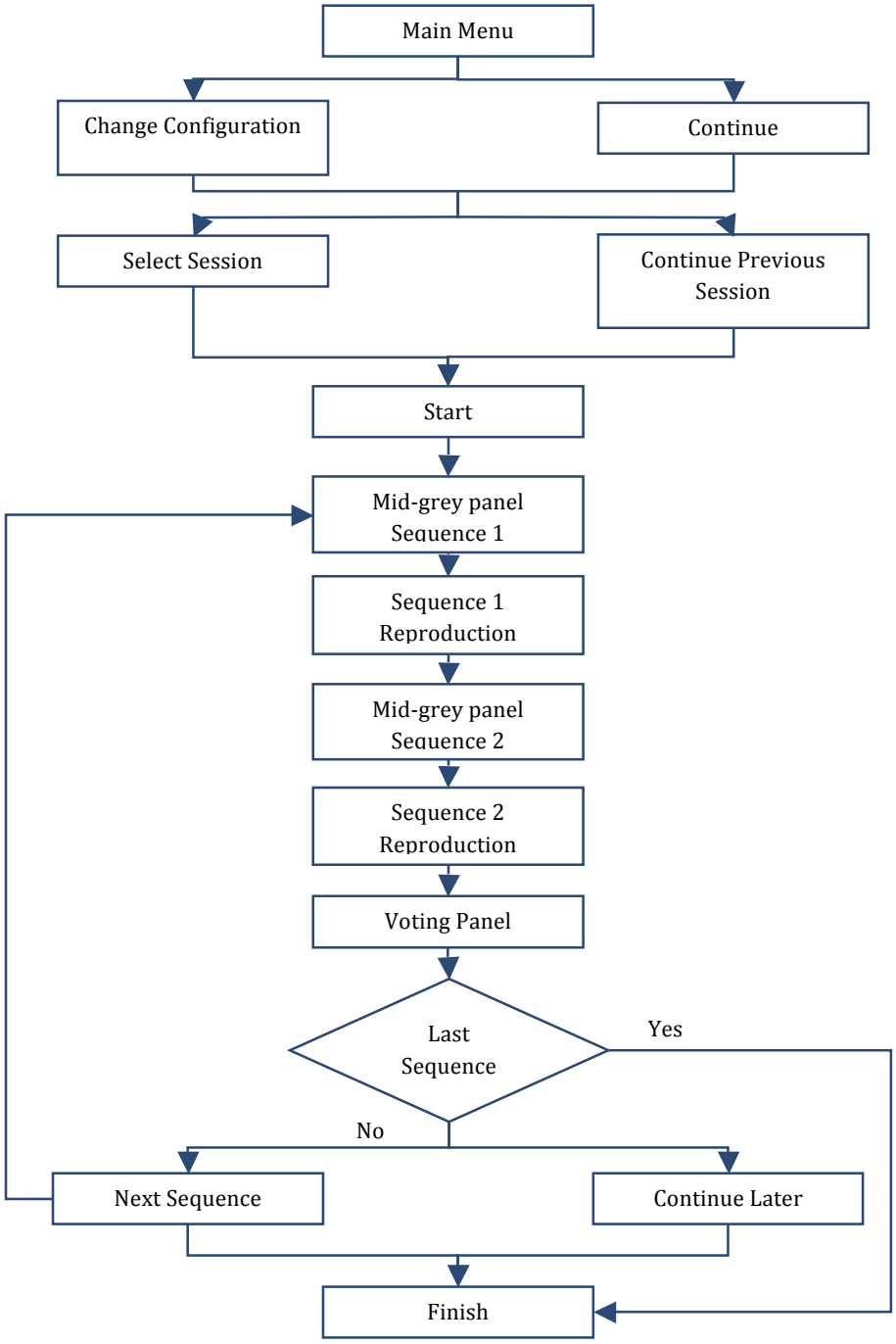
Solution File

Finally, a solution text file is added in every session directory. It consists of a column vector composed by numbers 1 and 2 according to the correct answer in each case. Moreover, the name of this file must be *solution.txt*.

Using Interface

Overview

This section includes a flowchart that describes the interface functionality step-by-step.



Settings

At the beginning of the interface execution a main menu is presented. This menu contains the default configuration (see Figure 1) if the first execution or the

configuration of the previous execution. You can change the values or continue with the specified configuration.

As can be observed, the main settings are the following:

- Number of sessions.
- Number of sequences by session.
- Video format (AVI, MOV, MPEG).
- Path where all “SessionN” directories are stored.

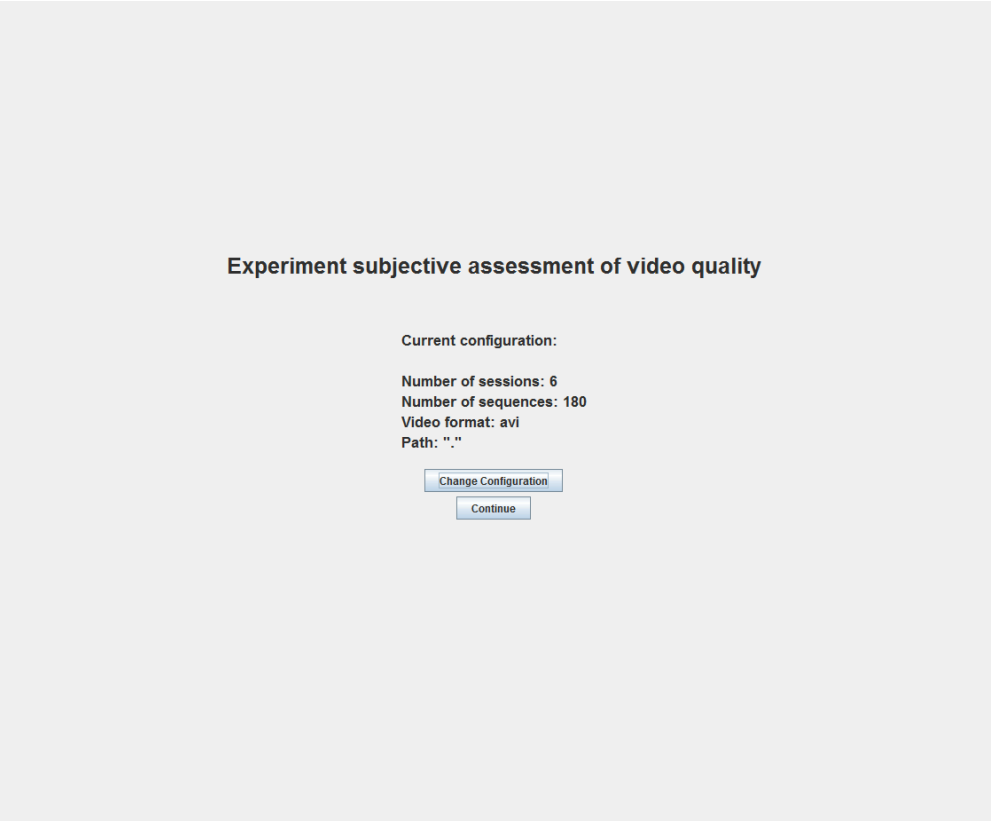


Figure 1. Main menu.

Support Files

Given that the experiment can be paused to continue after, two control files are used to store whole necessary information.

Firstly, the configuration information is copied to the text file *infoConfig.txt*. Number of sessions, number of sequences by session, video format and path previously selected are stored.

On the other hand, *infoSession.txt* is responsible for storing the session number and the last sequence number displayed before stopping the experiment.

Both files are located in “.” by default; this path can´t be changed. Because of their importance to continue the experiment, they mustn´t be removed.

Finally, the interface generates a third text file, *answers.txt*, for every session. Every subject response is added to this file. The response format is as follows:

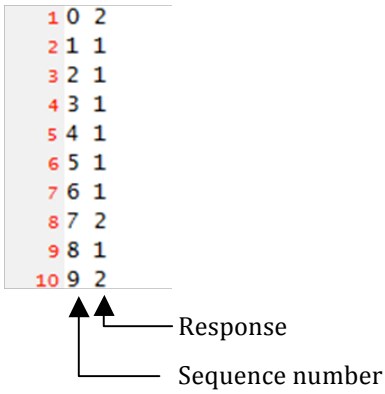


Figure 2. File "answers.txt"

References

[1] http://www.oracle.com/technetwork/java/javase/download-142937.html
[2] http://www.oracle.com/technetwork/java/javase/downloads/index.html