

User Documentation for *amos2023ws03-gui-frame-diff*

Introduction

Welcome to the user documentation for the *amos2023ws03-gui-frame-diff* project. This tool is designed for analyzing and presenting differences in various video files. The purpose of this documentation is to guide users through the setup and utilization of the software.

Getting Started

To get started, download the latest stable [release](#). The zipped file contains the source code. Building and running the modules individually depends on having a `gradle` installation. Refer to the [build/deploy documentation](#) for a step-by-step guide on building the individual modules.

Overview

The software comprises three modules, each serving a specific purpose.

Using Library 1 (Video Generator)

Library 1 is a standalone `kotlin` library designed for compatibility with Android applications and various operating systems.

1. **Video Generation:**
 - Invoke the `VideoGenerator` class with a user-specified output path.
 - Use the `loadFrame` function to add images to the video.
 - Save the generated video using the `save` function.

Using Library 2 (Difference Generator)

Library 2 is another standalone `kotlin` library for video difference analysis.

1. **Initialization:**
 - Create an instance of the `DifferenceGenerator` class, specifying paths to the videos, the output file, and an optional mask.
 - Optionally provide an alignment algorithm for comparing video frames.
2. **Validation:**
 - The `DifferenceGenerator` automatically validates video codecs and ensures equal dimensions.
3. **Generating the Difference Video:**
 - The generator automatically computes the difference video, applying an optional mask.
 - Output highlights differences between the input videos.

Using the Graphical User Interface (GUI)

The GUI, built with Compose multiplatform, utilizes Library 2 for interactive video difference evaluation.

1. **Application Screens:**
 - The first screen facilitates video selection and computation triggering.
 - After computation, a screen displays original videos side-by-side with differences highlighted.
2. **Interactive Evaluation:**
 - Users can step through videos frame by frame, play videos side-by-side, and pause them for evaluation.

For detailed instructions and additional information, refer to the respective sections in this documentation.