

Project title: SplitsFromVideo

Team Members:

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Faculty Advisor: Eraldo Ribeiro (eribeiro@fit.edu)

Client: Speedrunning community (speedrun.com)

Date of advisor meeting: Thursday, August 20th, 2026

Goal and motivation: Provide a way for users to extract split information from a speedrun video. This is a tedious task and there isn't a good way to automate it. Currently, extracting splits from a video must be done manually with significant time spent navigating to specific frames of the video.

Approach (key features of the system):

- The user can input a speedrun YouTube video link of their choosing to extract the splits. This allows for the user to obtain the splits from the timer in the video without having to manually seek through the frames for each split's final time. This automation also helps the user to prevent error that may come from manual split extraction.
- The user can extract split data in multiple formats including LiveSplit splits file (.lss), .csv, and plaintext. These exported formats can be used by the user to import split timings into LiveSplit, review split times with more accuracy, and to create more accurate comparisons to other runs.
- The user can generate YouTube chapter timestamps, which helps speedrun creators visually represent splits in their video. This helps other users save time by easily being able to skip to their desired parts of the video.

Novel features/functionalities:

- Computer vision based data extraction in a speedrunning context.
- Interfacing directly with YouTube and LiveSplit to allow retroactive analysis of speedrunning history/data.

Algorithms and tools:

- Python
- Python web server
- Pywebview (html/JS)
- yt-dlp
- cap-from-youtube
- OpenCV
- pytesseract
- PaddleOCR

- Pause-Aware Reverse Timeline Scan (PARTS)

Technical Challenges:

- We have limited experience working with computer vision.
- We've never used the listed tools before except python.
- There is a lot of variation in LiveSplit timer layouts and visuals.

Milestone 1 (Sep 28): itemized tasks:

- Compare and select technical tools for
 - computer vision
 - optical character recognition (OCR)
 - YouTube video streaming/navigation
- Provide small ("hello world") demo(s) to evaluate the tools for:
 - computer vision
 - optical character recognition (OCR)
 - YouTube video streaming/navigation
- Resolve technical challenges:
 - Intro to Computer Vision class lectures.
 - Research, understand, and experiment with tools to gain experience.
 - Minimize the amount of layout items required, as well as identify a way to simplify complex layouts and visuals.
- Collaboration tools:
 - Discord
 - Github
 - Google Calendar
 - Google Drive/Docs
- Create Requirement Document
- Create Design Document
- Create Test Plan

Milestone 2 (Oct 26): itemized tasks:

- Implement, test, and demo navigating and obtaining specific frames from a YouTube video.
- Implement, test, and demo algorithm for finding the beginning of splits.

Milestone 3 (Nov 23): itemized tasks:

- Implement, test, and demo user timer selection of timer regions and GUI.
- Implement, test, and demo split outputs.

Task matrix for Milestone 1

Task	Carter	Mateusz
Compare and select Technical Tools	YouTube video streaming/navigation	Computer vision/OCR
"hello world" demos	YouTube video streaming/navigation	Identifying timer values from LiveSplit screenshot
Resolve Technical Challenges	Research and experiment with tools	Research and experiment with tools
Compare and select Collaboration Tools	Programming/scheduling tools	documents/presentations
Requirement Document	write 70%	write 30%
Design Document	write 30%	write 70%
Test Plan	write 50%	write 50%

Approval from Faculty Advisor

- "I have discussed with the team and approve this project plan. I will evaluate the progress and assign a grade for each of the three milestones."
- Signature: _____ Date: _____