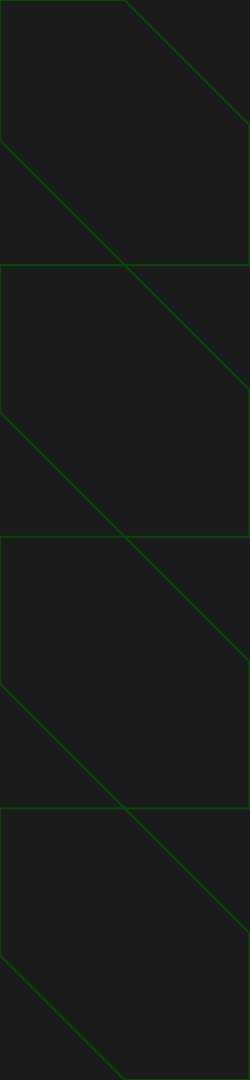


A decorative pattern of green squares and rectangles of varying shades, arranged in a grid-like fashion that tapers off towards the top right corner of the image.

SplitsFromVideo

by Carter Tabin, Mateusz Doda

Advisor: Eraldo Ribeiro



Presentation overview

 Goal

 Approach

 Novel Features

 Technical Challenges

 Milestone 1

 Milestone 2

 Milestone 3

Speedrunning

- the act of playing a video game with the goal of completing it as fast as possible.
- Split – a specific timed segment used to divide a speedrun into smaller parts.
- Project target: Speedrunning community

The Legend of Zelda: The Wind Waker Any% (English, No Tuner) 60		
Hero's Sword	-4.7	10:50
Leaving Outset		18:24
Forsaken Fortress 1		29:23
Wind Waker		38:59
Empty Bottle		42:17
Delivery Bag		47:00
Kargaroc Key		52:21
Grappling Hook		55:27
Enter Gohma		56:38
Dragon Roost Cavern		59:38
Northern Triangle		1:02:53
Greatfish		1:04:01
Bombs		1:09:33
Deku Leaf		1:17:13
Enter Kalle Demos		1:21:33
Ganondorf		4:51:34
		10:56.48
Previous Segment	-4.7	



Our goal

Provide a way to extract
split information from a
speedrun YouTube video.



World Record is 46:23 by me

	PSS (3)	-0.8	3:05.5
	WF (10)		7:04.6
	WC (12)		8:23.2
	BitDW (13)		10:12.7
	CCM (17)		12:52.6
	BBH (19)		14:23.8
	bro;		46:23.9

3:52.0

PB: 3:58.25
Best: 3:57.44

46.4

Previous Segment (Best) +1.60

Possible Time Save 0.81

Best Pace Ever +1.6

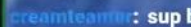
Best Possible Time 45:31.8

Sum of Best Segments 45:30.2

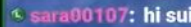
recreate

 **recreate**

 **Odyssey16:** gtm is taking the bounty

 **creamtear:** sup brah,

 **antiscum:**

 **sara00107:** hi suigi and chat



Super Mario 64 70 Star speedrun in 46:11 [WORLD RECORD]



greensuigi
32.1K subscribers

Join



2.1K



Share

Save

Thanks

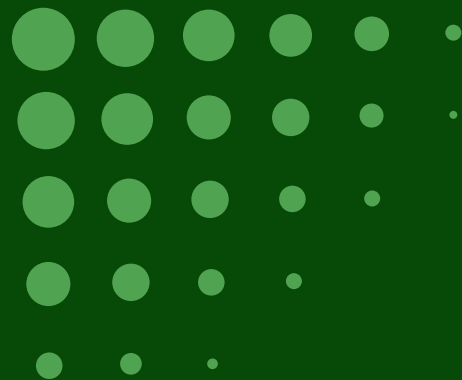


Screenshot

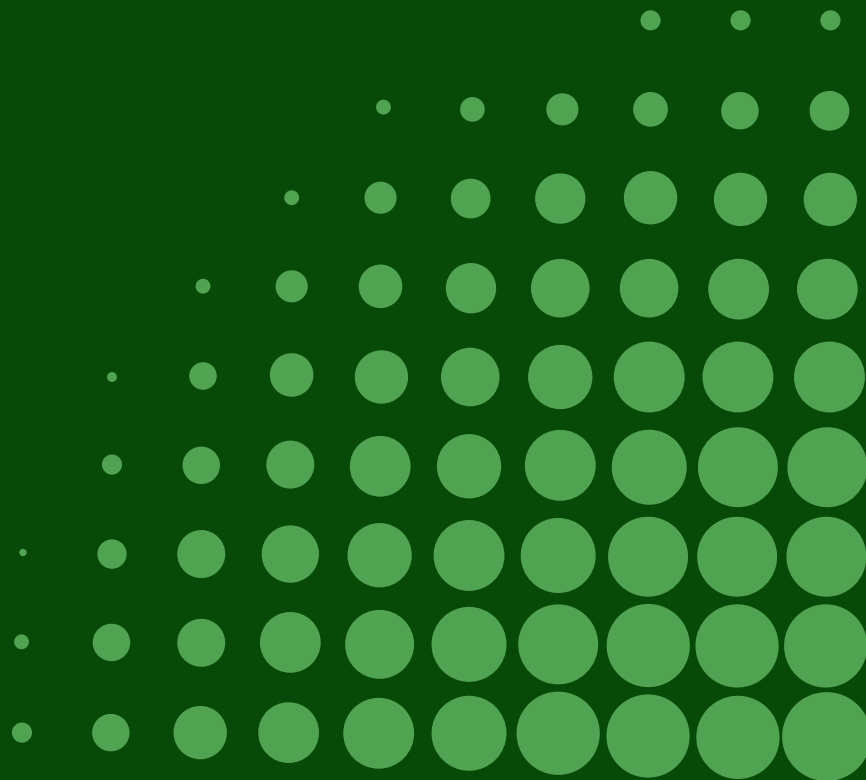


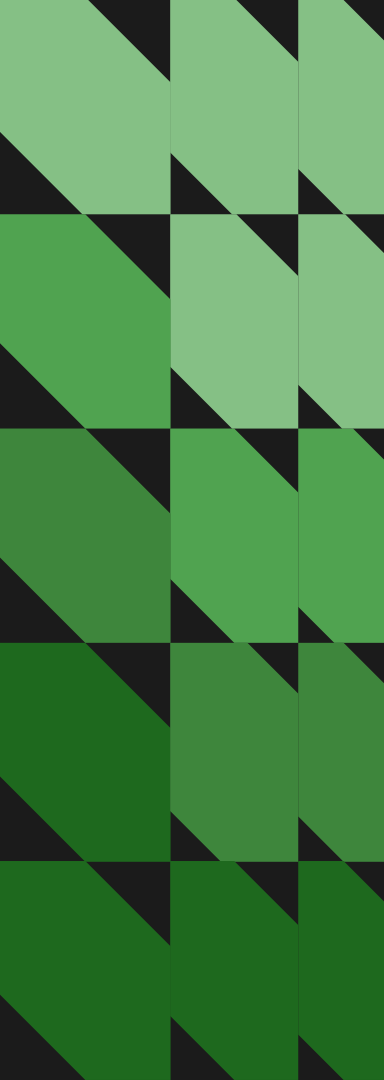
Daily sub goal

1/20



Approach



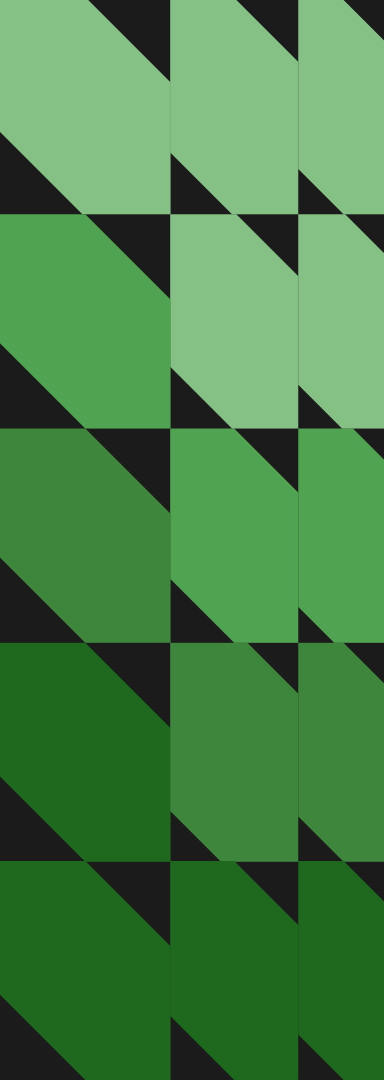


Approach

- The user can input a speedrunning YouTube video link to extract splits.
- The user can extract the splits in multiple formats.
 - .lss, .csv, plaintext
- The user can generate YouTube chapter timestamps.

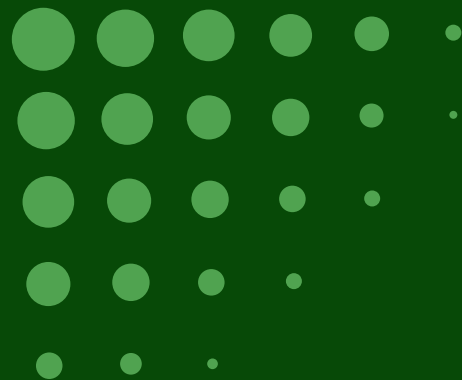


Novel Features

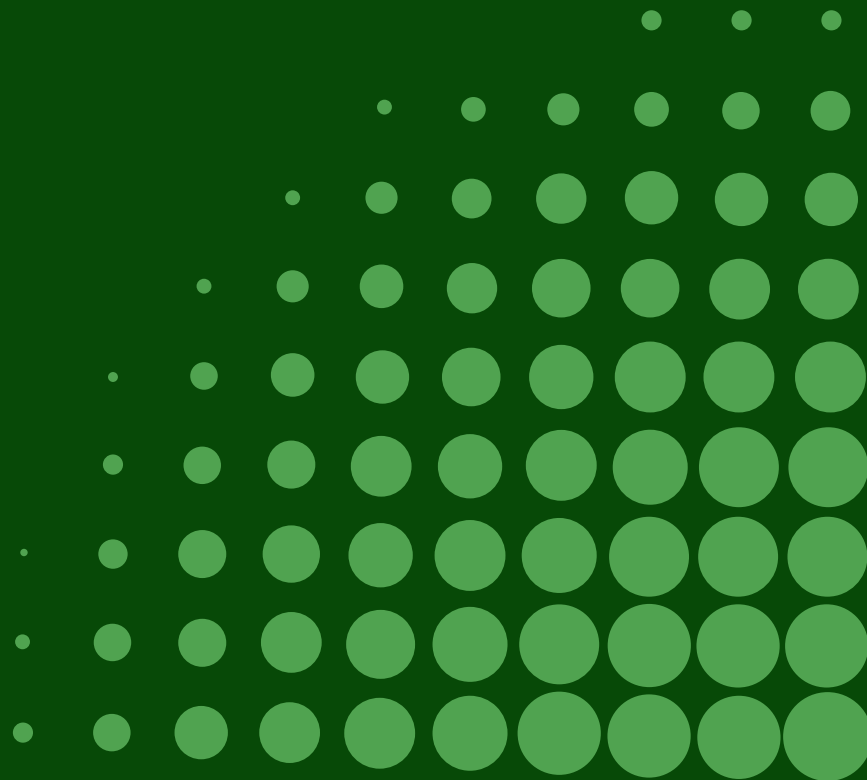


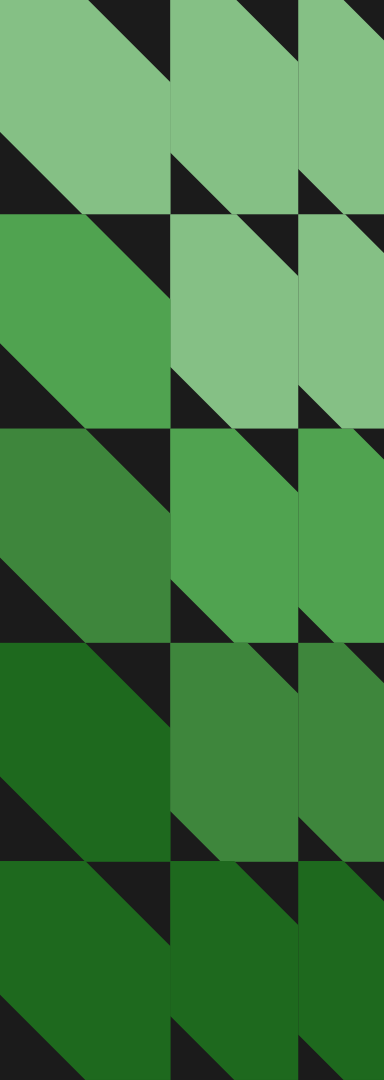
Novel Features

- Computer vision based data extraction in a speedrunning context.
- Interfacing with YouTube and LiveSplit (timer program).



Algorithms and tools





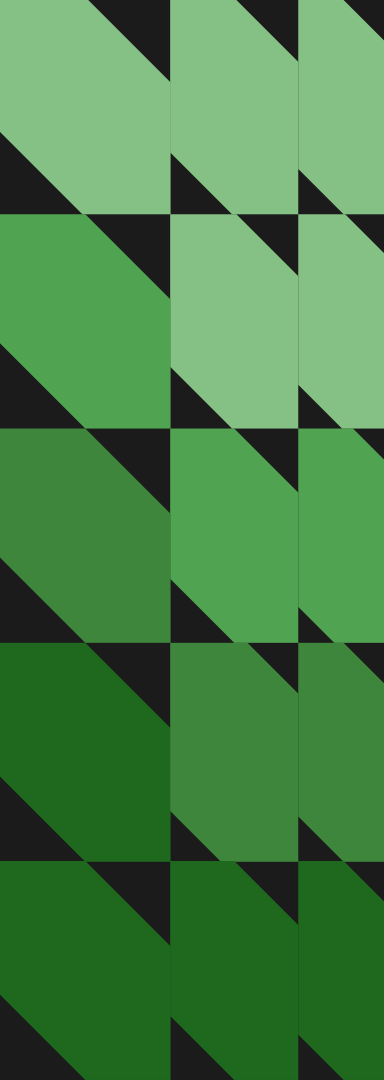
Tools

- Python
- Pywebview (html/JS)
- Yt-dlp + Cap-from-youtube
- OpenCV
- Pytesseract
- PaddleOCR

- Pause-Aware Reverse Timeline Scan (PARTS)

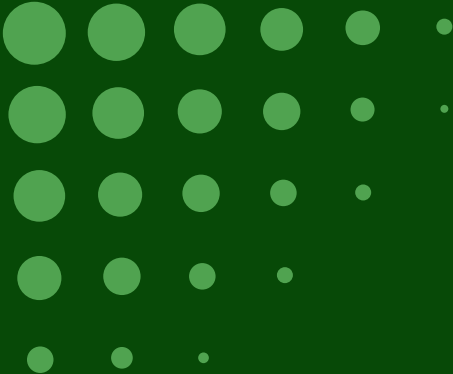


Technical Challenges

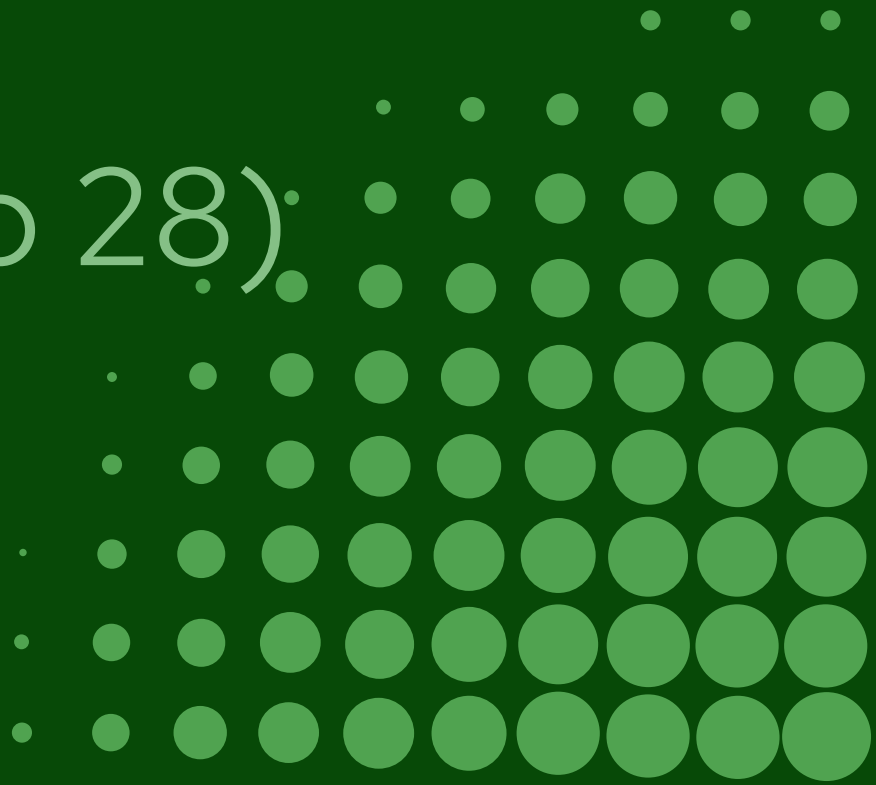


Technical Challenges

- Limited experience working with computer vision
- Never used listed tools except Python
- A lot of variation in LiveSplit timer layouts/visuals



Milestone 1 (Sep 28):



Milestone 1

Compare and select
Technical tools for:

- Computer vision
- Optical character recognition (OCR)
- YouTube video streaming/navigation

Demo to evaluate tools:

- Computer vision
- Optical character recognition (OCR)
- YouTube video streaming/navigation

Resolve technical challenges:

- Intro to Computer Vision class
- Practice + learn with tools
- Minimize amount of video items needed

Milestone 1

Collaboration tools:

- Discord
- Github
- Google Calendar
- Google Slides/Docs

Create Documents:

- Requirements Doc
- Design Doc
- Test Plan

Milestone 1

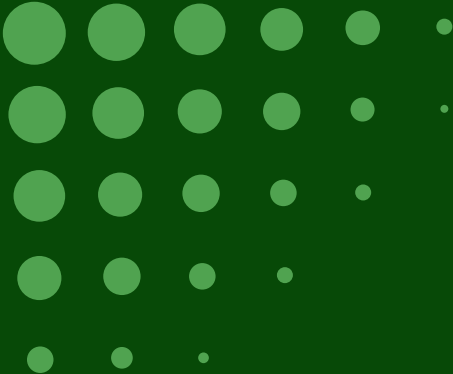
Task	Carter	Mateusz
Compare and select Technical Tools	YouTube video streaming/navigation	Computer vision/OCR
"hello world" demos	YouTube video streaming/navigation	Identifying timer values from LiveSplit screenshot
Resolve Technical Challenges	Research and experiment with tools	Research and experiment 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%



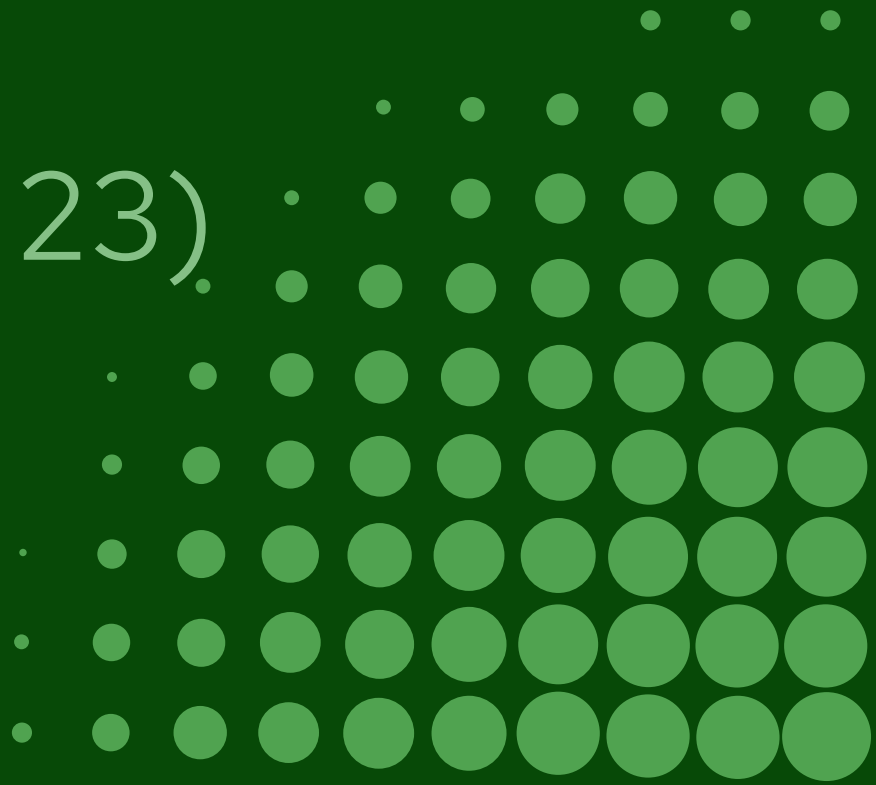
Milestone 2 (Oct 26)

Milestone 2

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

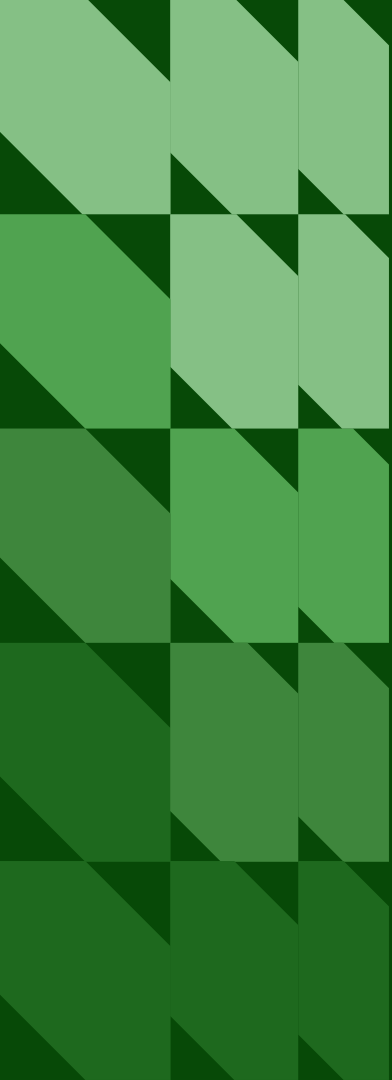


Milestone 3 (Nov 23)



Milestone 3

- Implement, test, and demo user timer selection of timer regions and GUI.
 - ◆ .lss, .csv, plaintext
- Implement, test, and demo split outputs.



Questions?