Progress Report 2

COSC 4P02 – Software Engineering 2 (Winter 2024)

Professor- Naser Ezzati - Jivan

April 1st, 2024

Project Title: Social Media Post Generator

GitHub: https://github.com/mc16dn/COSC-4P02-Group-Assignment/tree/main

Jira: https://brocku-hh18iq.atlassian.net/jira/software/projects/SMPG/boards/1/backlog

Project Members

Name	Role	ID	Brock Email	GitHub Username
Basel Abdel Hafez	Product Owner	6826853	ba19tw@brocku.ca	Hafezberg
Hevar Halabjaee	Scrum Master	6701248	hh18iq@brocku.ca	spiralwind
Rifat Chowdhury	Project Manager	6830301	rc19nv@brocku.ca	Rifat-Chowdhury
Raymond Dong	Developer 1	6592539	rd18sx@brocku.ca	raymonddong2
Matthew Cam	Developer 2	6195556	mc16dn@brocku.ca	mc16dn
Maisam Anjum	Developer 3	6804298	ma19an@brocku.ca	Koorikdat

Contents

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1. Project Design

This section goes over our progress and testing since the first report.

1.1 Team Member Contributions

I. Matt:

- Researched subs to use for content and created the Git project.
- Created function that grabs URLs of Reddit posts based on sub and amount requested.
- Integrated URLs grabber and content scrapper.
- Researched TTS software and provided code examples.
- Merging of audio and video.
- Generation of subtitles and syncing to audio.
- Categorized videos and subs.
- Formatted videos to the correct aspect ratio and length.
- Detection and automatic downloading of necessary dependencies.

II. Raymond:

- Researched the maximum duration a video can be.
- Ensure a post is of an appropriate length.
- Integrated tts code with the reddit grabber.

- Researched how to get analytics using googles API.
- Researched how to gather that information into something readable for the user.
- Implemented the package that utilizes googles API, allowing for users to get.
- Currently working on implementing other ways to see the information, so that it is easily digestible by the user.

III. Basel:

- Created user epic.
- Contributed to user stories.
- Provided the vision behind the end-goal of the program.
- Contributed to the Release Planning doc editing.
- Formatting and updating the progress reports.
- Keeping track of the meetings by meeting logs.
- Encourages team communication by being vocal in meetings.
- Generated many ideas to better the program after extensive research.
- Provided a plethora of permutation options.
- Contributed the bulk of the writing and decision-making behind what's included in every progress report.

IV. Hevar:

- Made the final product and sprint backlog decisions.
- Communicates with Basel to ensure accuracy in the report.
- Contributed to the research material that needs to be looked on to ensure the success of the project.
- organizes weekly meetings and manages the development team.
- Keeping Jira up to date and updating the sprint's backlog and times.
- make censorship for the voice so that it avoids inappropriate words.
- test the censorship and voice so that there are no errors involved.
- Contributes to the team by being the main tester.

V. Rifat:

- Contributed to user stories and keeping files up to date.
- Managing Miro & created the License file.
- Created a timeline of the different sprints.
- Formatting and updating the Progress report 2 & Readme file constantly.
- Arranged meeting's and keeping track of due dates.
- Assisting Basel with the meeting logs.
- Participating in group meetings and discussions to keep track of the project progress for proper documentation.

VI. Maisam:

- Registered with reddit API.
- Used reddit API to pull from given URL.

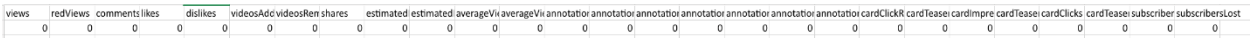
- Researched how to grab and read stories from reddit.
- Tested the censorship and voice so that there are no errors involved.
- Allowed easy switching between voices and test that it doesn't cause errors.
- Made the voice of the bot read any text.
- Assisted Hevar with research.
- Assisted with making decisions regarding the program's implementation.
- Assisted in discussing the risk management of the project.

1.2 Progress:

As seen by the two executions **first** & **second**. We have succeeded in creating processed videos exclusively through our program. The two videos have different voices and background templates. We have also successfully interfaced with YouTube and are close to finishing our autonomous upload algorithm. Finally, we noticed that some censored words were slipping through our censorship algorithm which resulted in us making it more reliable. More realistic TTS voice options would be ideal to implement, and we have some options in that regard, but we are currently prioritizing the GUI over it. To that end, we finally decided what tools we will be using to create the GUI: Custom Tinker and Tkinter. Basel and Rifat will be providing detailed GUI models for the development team to implement.

Regarding uploading videos, we are close to uploading a completed video to YouTube. All the modules in our program are in place to facilitate an upload, all that is left to do is add some code to our algorithms to upload a video autonomously.

Metric Grabbing Output:



views	redViews	comments	likes	dislikes	videosAdd	videosRem	shares	estimated	estimated	averageVi	averageVi	annotatio	annotatio	annotatio	annotatio	annotatio	annotatio	cardClickR	cardTease	cardImpre	cardTease	cardClicks	cardTease	subscriber	subscribersLost
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The above output shows full zeroes because we do not have a video uploaded yet, and YouTube's privacy policy does not allow us to grab the data of videos we haven't made. However, we are confident this algorithm will perform as expected when used.

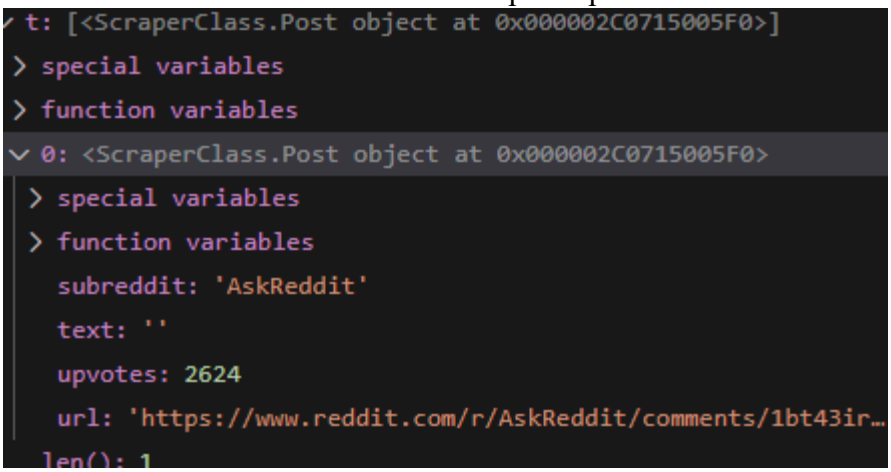
1.3 Testing:

After setting up the metric retrieval algorithm. It has been tested and functions as intended. We tested the TTS matching with the subtitles' timing. It was cumbersome to ensure reliability. But we successfully completed the task. We also tested the positioning and thickness of the subtitles on the video template to increase readability, and we ended up with a satisfactory result.

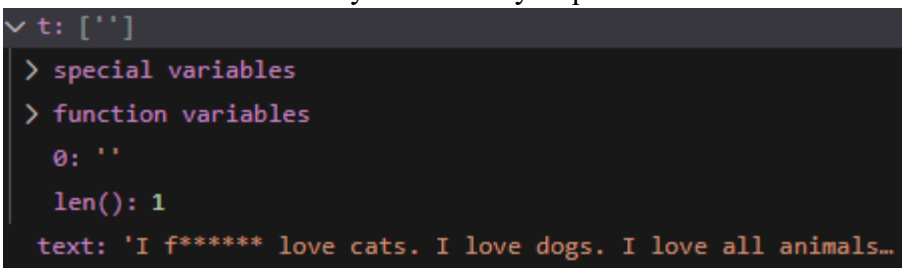
However, the biggest issue we had was code runtime. And a lot of tests were done to reduce it.

```
C:\Users\Matthew\Desktop\COSC-4P02-Group-Assignment-main>py mainapp.py
Moviepy - Building video C:\Users\Matthew\Desktop\COSC-4P02-Group-Assignment-main\end.mp4.
MoviePy - Writing audio in endTEMP_MPY_wvf_snd.mp3
MoviePy - Done.
Moviepy - Writing video C:\Users\Matthew\Desktop\COSC-4P02-Group-Assignment-main\end.mp4

Moviepy - Done !
Moviepy - video ready C:\Users\Matthew\Desktop\COSC-4P02-Group-Assignment-main\end.mp4

C:\Users\Matthew\Desktop\COSC-4P02-Group-Assignment-main>
```

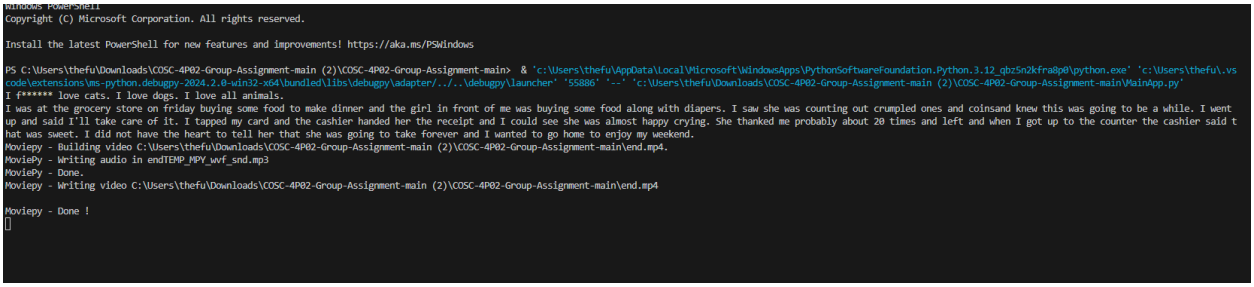
The above execution took 3 minutes to pull a post from Reddit.



After extensive testing, we found out that the reason was Reddit's API setting a limit to how many requests can be made before it delays requests by an entire minute. The picture above shows that we had too many unnecessary requests that didn't contribute to video generation.



Adding .text to the grabbed URL made it easier to process and also contributed to fixing the issue.

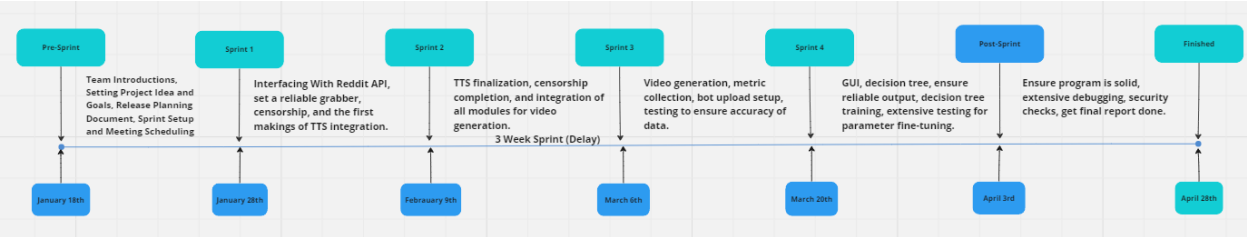


The above execution took 1–2 minutes. We are still looking for ways to reduce it but a big improvement has been made.

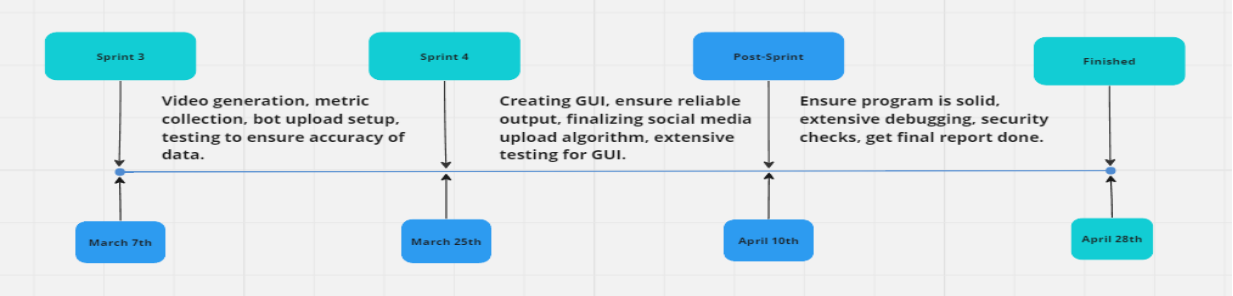
1.4 Timeline:

Between the two timelines, we decided to cut out the decision tree aspect of the program as it was found unnecessary and time consuming. This decision pushed our project's time expectancy to completion down to being reasonably before the deadline. We made sure to provide ourselves with ample time, should something unexpected happen. And if all goes well, it provides us with more time to debug, test, and maintain the program's reliability.

Until Progress Report 1 (**https://miro.com/app/board/uXjVNmelgZg=/**):



Updated Timeline (https://miro.com/app/board/uXjVKZrbrNI=/):



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2. Sprints and Iteratives:

Please refer to the updated timeline for a brief overview of each sprint's goals.

2.1 Sprint 3:

Projects / Social Media Post Generator

Backlog

Epic · Insights · View settings

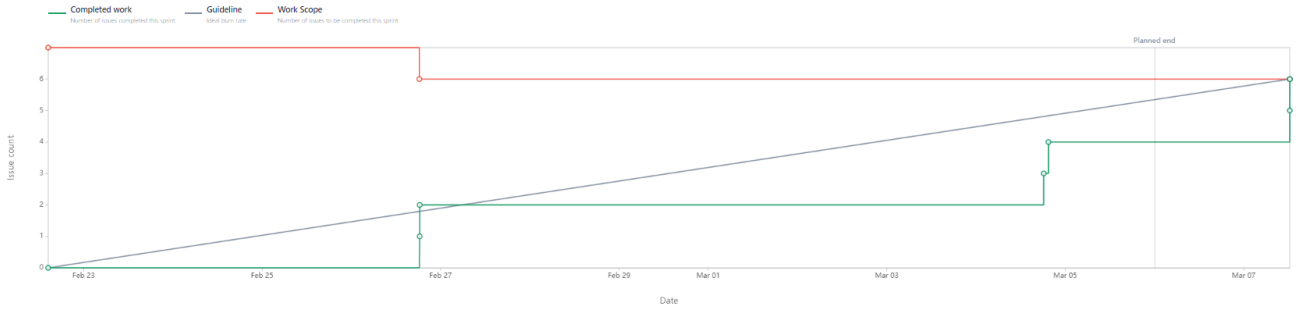
Create a and combine video · Add dates · (9 issues) · 0 0 0 · Start sprint

SMPG-6 producing 18 video templates	TO DO	-
SMPG-41 allow user to upload file	TO DO	-
SMPG-43 create generic background for text and make it readable	TO DO	-
SMPG-39 create subtitles for reddit post on video automatically	TO DO	-
SMPG-26 combine the video with the text from reddit and the voice to produce content that can be uploaded	TO DO	-
SMPG-12 produce a method for the bot to upload to multiple different social platforms	TO DO	-
SMPG-35 Test that the metrics given returned from the video are sound and accurate	TO DO	-
SMPG-9 grab video metrics from a given channel (watch time , total clocks, total view and total shares)	TO DO	-
SMPG-44 test that the given metrics are similar to the ones stated in the creator hub for the video	TO DO	-

+ Create issue

Sprint: voice of the reddit bot · Estimation field: Issue count

Date - February 22nd, 2024 - March 6th, 2024



Date	Event	Issue	Completed	Scope
Thu, Feb 22 2024, 2:27pm	Sprint started	SMPG-15 make the voice of the bot read any text SMPG-16 make censorship for the voice so that it avoid inappropriate words SMPG-17 test the censorship and voice so that there is no errors involved SMPG-18 integrate the voice with the reddit grabber so that it can read the text SMPG-19 test the integration so that there is no errors because of the implementation SMPG-20 develop multiply different options for the voice (around 3) SMPG-21 allow easy switching between voices and test that it doesn't cause errors SMPG-40 Research useable voice modules SMPG-26 combine the video with the text from reddit and the voice to produce content that can be uploaded	0	7
Mon, Feb 26 2024, 6:17pm	Removed from sprint	SMPG-26 combine the video with the text from reddit and the voice to produce content that can be uploaded	0	7 → 6
Mon, Feb 26 2024, 6:23pm	Issue completed	SMPG-18 integrate the voice with the reddit grabber so that it can read the text	0 → 1	6
Mon, Feb 26 2024, 6:23pm	Issue completed	SMPG-15 make the voice of the bot read any text	1 → 2	6
Mon, Mar 04 2024, 6:13pm	Issue completed	SMPG-21 allow easy switching between voices and test that it doesn't cause errors	2 → 3	6
Mon, Mar 04 2024, 7:29pm	Issue completed	SMPG-16 make censorship for the voice so that it avoid inappropriate words	3 → 4	6
Thu, Mar 07 2024, 12:23pm	Issue completed	SMPG-17 test the censorship and voice so that there is no errors involved	4 → 5	6
Thu, Mar 07 2024, 12:23pm	Issue completed	SMPG-19 test the integration so that there is no errors because of the implementation	5 → 6	6
Thu, Mar 07 2024, 12:24pm	Sprint completed	SMPG-15 make the voice of the bot read any text SMPG-16 make censorship for the voice so that it avoid inappropriate words SMPG-17 test the censorship and voice so that there is no errors involved SMPG-18 integrate the voice with the reddit grabber so that it can read the text SMPG-19 test the integration so that there is no errors because of the implementation SMPG-20 develop multiply different options for the voice (around 3) SMPG-21 allow easy switching between voices and test that it doesn't cause errors SMPG-40 Research useable voice modules	6	6

Completed issues

View in issue navigator

Key	Summary	Issue type	Epic	Status	Assignee	Story points
SMPG-6	producing 18 video templates	Task		DONE		-
SMPG-35	Test that the metrics given returned from the video are sound and accurate	Task		DONE	RD	-
SMPG-41	allow user to upload file	Task		DONE	MA	-
SMPG-12	produce a method for the bot to upload to multiple different social platforms	Task		DONE		-
SMPG-9	grab video metrics from a given channel (watch time , total clocks, total view and total...	Task		DONE	RD	-
SMPG-43	create generic background for text and make it readable	Task		DONE	HH	-
SMPG-39	create subtitles for reddit post on video automatically	Task		DONE	MC	-
SMPG-44	test that the given metrics are similar to the ones stated in the creator hub for the video	Task		DONE	RD	-
SMPG-26	combine the video with the text from reddit and the voice to produce content that ca...	Task		DONE	MC	-
SMPG-46	insert reddit title template above text	Task		DONE		-

Issues completed outside of sprint

Key	Summary	Issue type	Epic	Status	Assignee	Story points

2.2 Sprint 4 (Current Sprint):

Backlog

RC RD HH MC MA Epic Insights View settings

start of GUI 25 Mar – 10 Apr (13 issues) 0 0 0 Complete sprint

SMPG-48 research which program is best to make the gui	TO DO	HH
~~SMPG-7~~ grabbing data from posted video	DONE	RD
~~SMPG-47~~ verify user to allow data grab (INSTRUCTIONS)	DONE	RD
~~SMPG-31~~ create database for video and metrics	DONE	RD
SMPG-38 create graphs for metric comparsion	TO DO	RD
SMPG-52 change the text to speech module	TO DO	MA
SMPG-50 categorize the video types (ex/ horror, funny, fun)	TO DO	MC
SMPG-14 make a user interface	TO DO	
SMPG-32 show video on gui	TO DO	
SMPG-22 allow the user to upload video files to the user interface and work with the bot	TO DO	
SMPG-23 allow user to change voice with GUI	TO DO	
SMPG-24 allow user to change where they grab the reddit story (gui)	TO DO	
SMPG-53 Update readme added APIs	TO DO	

+ Create issue

Scope changes log

View in issue navigator

Date	Key	Summary	Issue type	Epic	Details of scope change	Change in estimation
2024-03-25	SMPG-48	research which program is best to make the gui	Task		Issue added to sprint	-
2024-03-25	SMPG-49	gui prototypes	Task		Issue added to sprint	-
2024-03-25	SMPG-49	gui prototypes	Task		Issue removed from sprint	-
2024-03-25	SMPG-50	categorize the video types (ex/ horror, funny, fun)	Task		Issue added to sprint	-
2024-03-25	SMPG-52	change the text to speech module	Task		Issue added to sprint	-
2024-04-01	SMPG-53	Update readme added APIs	Task		Issue added to sprint	-

Incomplete issues

View in issue navigator

Key	Summary	Issue type	Epic	Status	Assignee	Story points
SMPG-32	show video on gui	Task		TO DO		-
SMPG-24	allow user to change where they grab the reddit story (gui)	Task		TO DO		-
SMPG-14	make a user interface	Task		TO DO		-
SMPG-22	allow the user to upload video files to the user interface and work with the bot	Task		TO DO		-
SMPG-23	allow user to change voice with GUI	Task		TO DO		-
SMPG-38	create graphs for metric comparsion	Task		TO DO	RD	-
SMPG-48	research which program is best to make the gui	Task		TO DO	HH	-
SMPG-50	categorize the video types (ex/ horror, funny, fun)	Task		TO DO	MC	-
SMPG-52	change the text to speech module	Task		TO DO	MA	-
SMPG-53	Update readme added APIs	Task		TO DO		-

Completed issues

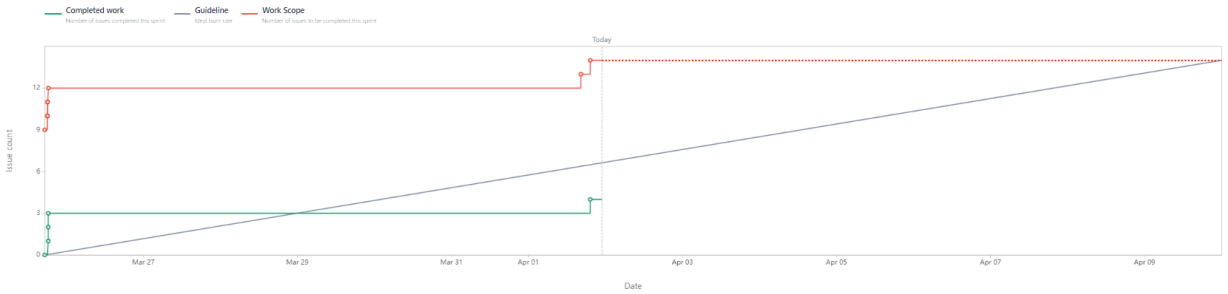
View in issue navigator

Key	Summary	Issue type	Epic	Status	Assignee	Story points
SMPG-31	create database for video and metrics	Task		DONE	RD	-
SMPG-7	grabbing data from posted video	Task		DONE	RD	-
SMPG-47	verify user to allow data grab (INSTRUCTIONS)	Task		DONE	RD	-

Sprint: start of GUI

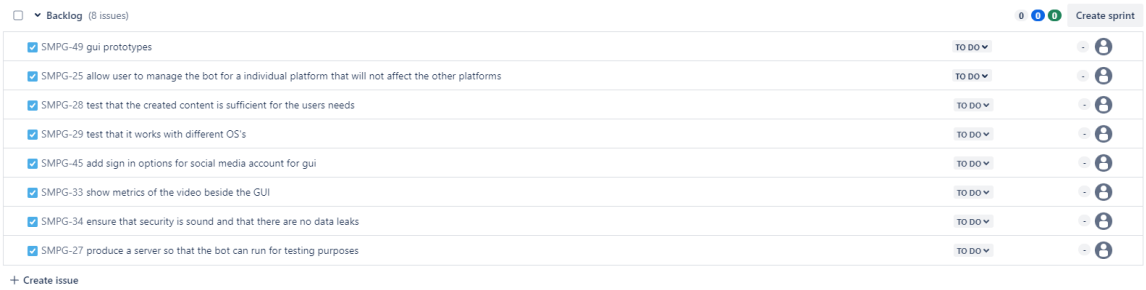
Estimation field: Issue count

Date - March 25th, 2024 - April 10th, 2024

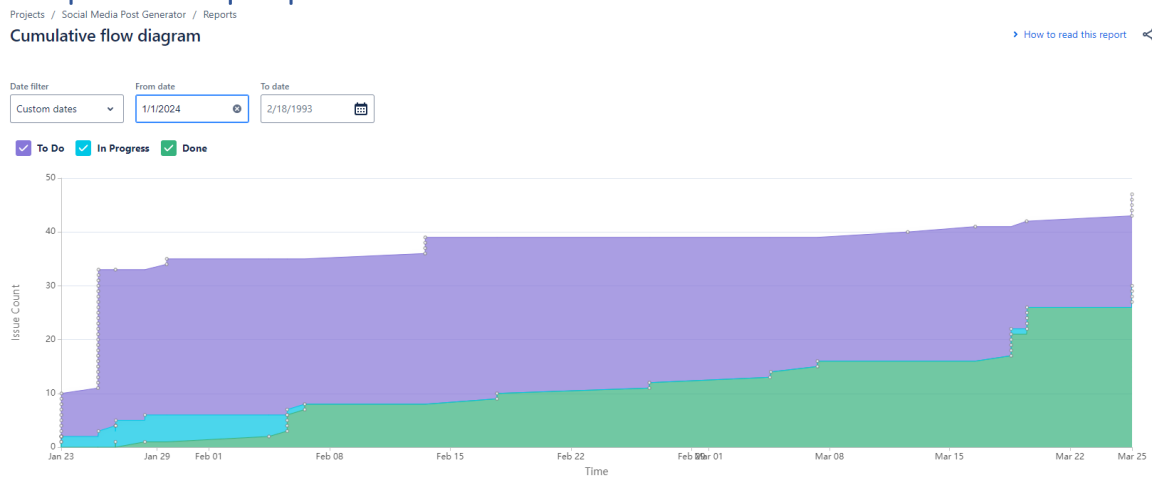


Date	Event	Issue	Completed	Scope
Mon, Mar 25 2024, 5:15pm	Sprint started	SMPG-31 create database for video and metrics SMPG-32 show video on gui SMPG-24 allow user to change where they grab the reddit story (gui) SMPG-14 make a user interface SMPG-22 allow the user to upload video files to the user interface and work with the bot SMPG-23 allow user to change voice with GUI SMPG-38 create graphs for metric comparsion SMPG-7 grabbing data from posted video SMPG-47 verify user to allow data grab (INSTRUCTIONS)	0	9
Mon, Mar 25 2024, 6:04pm	Estimate updated	SMPG-48 research which program is best to make the gui	0	9
Mon, Mar 25 2024, 6:04pm	Added to sprint	SMPG-48 research which program is best to make the gui	0	9 → 10
Mon, Mar 25 2024, 6:06pm	Added to sprint	SMPG-49 gui prototypes	0	10 → 11
Mon, Mar 25 2024, 6:09pm	Removed from sprint	SMPG-49 gui prototypes	0	11 → 10
Mon, Mar 25 2024, 6:10pm	Estimate updated	SMPG-50 categorize the video types (ex/ horror, funny, fun)	0	10
Mon, Mar 25 2024, 6:10pm	Added to sprint	SMPG-50 categorize the video types (ex/ horror, funny, fun)	0	10 → 11
Mon, Mar 25 2024, 6:22pm	Issue completed	SMPG-7 grabbing data from posted video	0 → 1	11
Mon, Mar 25 2024, 6:22pm	Issue completed	SMPG-47 verify user to allow data grab (INSTRUCTIONS)	1 → 2	11
Mon, Mar 25 2024, 6:22pm	Issue completed	SMPG-31 create database for video and metrics	2 → 3	11
Mon, Mar 25 2024, 6:24pm	Estimate updated	SMPG-52 change the text to speech module	3	11
Mon, Mar 25 2024, 6:25pm	Added to sprint	SMPG-52 change the text to speech module	3	11 → 12
Mon, Apr 01 2024, 4:20pm	Added to sprint	SMPG-53 Update readme added APIs	3	12 → 13
Mon, Apr 01 2024, 7:16pm	Issue completed	SMPG-48 research which program is best to make the gui	3 → 4	13

2.3 Future Sprints/Backlog:



2.4 Sprint Burnup Report:



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3. Meetings

Meeting 8: (Monday March 4th):

Agenda: Sprint Review & Weekly Scrum

1 - Basel brought up the issue of censorship causing the context of a sentence to change or not make sense entirely. It was agreed that, to combat this, we would show the first letter of the swear word, the asterisks for the rest of the letters.

2 - We decided to investigate the subreddit swearing guidelines, to see what people do instead of swearing. Do they replace the words with another uncensored variation, or do they avoid their use entirely?

3 - Discussed the final details of the TTS system before the sprint ends to ensure we are on schedule. The main point was an agreement to add a bleep sound, though this will be done next sprint. For now, we will simply replace these words with "redacted."

4 - A short update on version control was conducted to ensure everyone is on the same working version.

Meeting 9: (Monday March 11th):

Agenda: Sprint Retrospective & Sprint Planning

1 - Last Sprint went with success. We finished all the tasks on time and no major roadblocks.

2 - Matt raised the question on the producing the 18 video templates. We are deciding on how to divide the work for the video template. We agreed on 2-3 videos on for each person where each video is 2 mins by this week before the end of this sprint.

Aspect ratio - You tube short aspect ratio 9/16, resolution - 1920x1080P, Genre - Games, Videos - no audio & 1-2 min in length:

3 - We talked on all the different platform timings on short and decided on having You tube shorts as our platform.

4 - We went trough the backlogs for the current sprint and assigned tasks based on the dev team discussions (Maisam, Matt, Raymond).

5 - Maisam had a question on how to deal with uploading and have multiple accounts for the interface.

6 - We had a bit discussion on when the next meeting will be.

Meeting 10 (Monday March 11th):

Agenda: Sprint Review

1 - Brought up dummy accounts and user access to bot accounts. Hevar added this to the backlog.

2 - Delegated video templates and genre classifying to Basel. Made the decision to delegate prototype GUI ideas to Basel and Rifat who will begin working on this starting next sprint (March 19th).

3 - Basel brought up the idea of classifying different permutations (videos, sounds, font(?), TTS voice(?)) and then adding a filter to the GUI for better user experience. If time allows, we will flesh out this feature, if not, we will still classify the permutations with genres to better the decision trees' intelligence.

4 - Set a more concrete timeline for project development and decided to proceed under the assumption that we need to have the program finished by April 16th.

Meeting 11 (Monday March 18th):

Agenda: Sprint Review.

1 - fixed image magic not working for everyone even though the directories were still there

2 - discussing removal of binary tree.

3 - maybe modifying the text to speech module to use a more realistic version

4 - checking in to see if we are up to date with tasks

Meeting 12 (Monday March 25th):

Agenda: Sprint Retrospective & Sprint Planning Meeting

1 - Discussed progress and exchanged what was done was requires more time. Currently, the main focus is improving user experience through instructions.

2 - Discussed scheduling and priorities when it comes to the GUI and Progress Report 2. We decided that prioritizing the progress report is more important, so Basel and Rifat will be finishing it first. Additionally, we decided to have Basel and Rifat ready the GUI prototypes ready by April 4-6th. This gives the team enough time to implement it.

3 - We confirmed our deadlines and oriented ourselves for when everything is due.

4 - Hevar and Matt discussed video storage and pulling from local folders. We made sure everything is in order.

5 - We discussed which programming language would be best for GUI design. Final decision will be made soon.

6 - We decided to assign checking for a better TTS to Maisum, he will oversee choosing and implementing that.

7 - The final decision for permutation storage was made: We will utilize folders and subfolders that each store a genre of permutation. E.g. "Horror Background Videos folder, Light-hearted Background Videos folder, Horror Music folder, etc..."

Meeting 13 (Monday April 1st):

Agenda: Weekly Scrum

1 - Went over progress report 2's final checks and brainstormed ways to lower execution time.

2 - Ran some tests on code runtime to further reduce it.

3 - Made the decision to add our own exceptions to code for easier and more informative testing. This was added to the backlog.

4 - Discussed the feasibility of adding a progress bar to the GUI.

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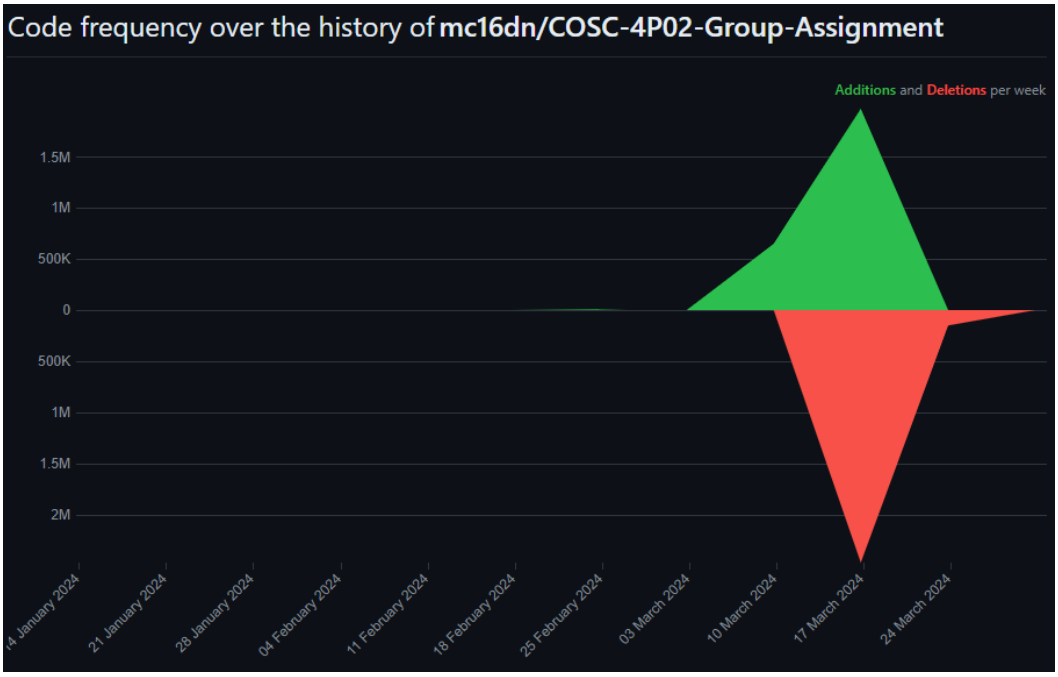
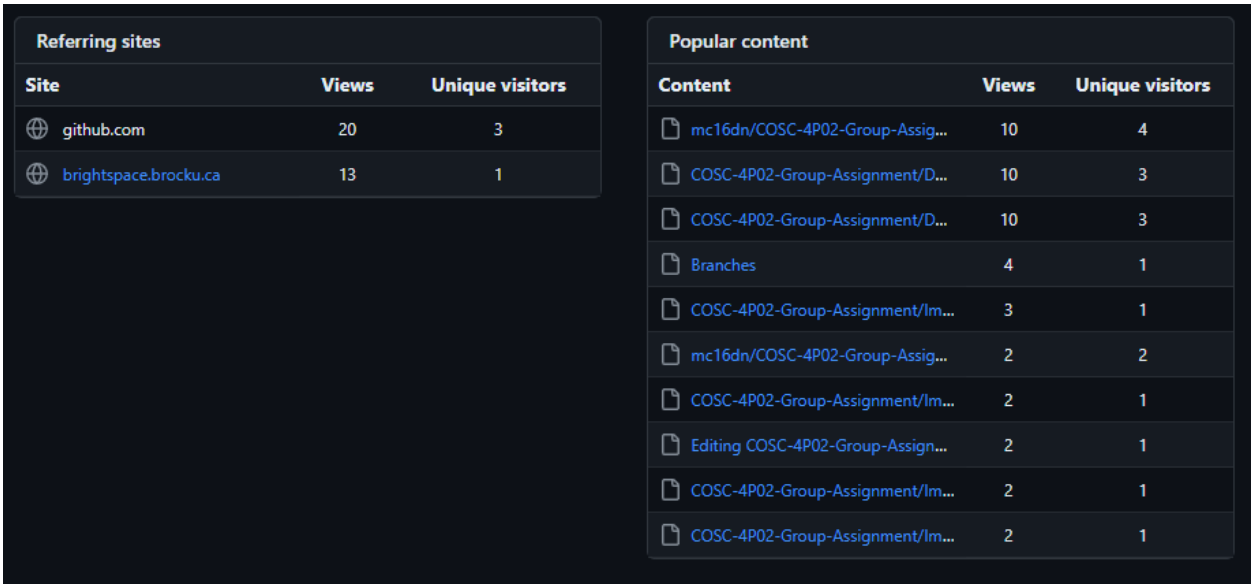
4. GitHub:


Jan 14, 2024 – Apr 1, 2024
Contributions: Commits
Contributions to main, excluding merge commits
10
5
0
Jan 14
Jan 21
Jan 28
Feb 04
Feb 11
Feb 18
Feb 25
Mar 03
Mar 10
Mar 17
Mar 24
Mar 31
mc16dn
26 commits 655,445 ++ 652,501 --
#1
Rifat-Chowdhury
22 commits 798 ++ 115 --
#2
spiralwind
16 commits 396 ++ 311 --
#3
raymonddong2
7 commits 1,969,174 ++ 1,969,134 --
#4
Hafezberg
4 commits 3 ++ 3 --
#5
Koorikdat
1 commit 66 ++ 0 --
#6


Code frequency over the history of mc16dn/COSC-4P02-Group-Assignment
Additions and Deletions per week
1.5M
1M
500K
0
500K
1M
1.5M
2M
14 January 2024
21 January 2024
28 January 2024
04 February 2024
11 February 2024
18 February 2024
25 February 2024
03 March 2024
10 March 2024
17 March 2024
24 March 2024


Git clones
03/19
03/20
03/21
03/22
03/23
03/24
03/25
03/26
03/27
03/28
03/29
03/30
03/31
04/01
14 Clones
13 Unique cloners
Visitors
49 Views
6 Unique visitors



Referring sites

Site	Views	Unique visitors
github.com	20	3
brightspace.brocku.ca	13	1

Popular content

Content	Views	Unique visitors
mc16dn/COSC-4P02-Group-Assig...	10	4
COSC-4P02-Group-Assignment/D...	10	3
COSC-4P02-Group-Assignment/D...	10	3
Branches	4	1
COSC-4P02-Group-Assignment/Im...	3	1
mc16dn/COSC-4P02-Group-Assig...	2	2
COSC-4P02-Group-Assignment/Im...	2	1
Editing COSC-4P02-Group-Assign...	2	1
COSC-4P02-Group-Assignment/Im...	2	1
COSC-4P02-Group-Assignment/Im...	2	1

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5. Issues:

Since the first progress report, the added complexity and layers in our program have subsequently resulted in more issues.

The biggest issue we faced was an unreasonably long execution time when grabbing Reddit posts. As shown by the report's section detailing testing, we have reduced the execution time substantially. We will be actively looking for more ways to reduce it further.

There were two more relatively big issues. The first one was the API not integrating itself very well, this resulted in us having some issues with external installations to facilitate better integration, but, after a combined problem-solving session, it was fixed after a few days. The second one is the virtual environment installed in the files. Even though the data was read successfully on one end, it did not transition to another member's execution very well. This issue has been mostly fixed, but more attention to version control is required to ensure it doesn't happen again.

Some relatively small issues include subtitle coloring and thickness, we need to ensure that the text is always easy to read, and this is difficult to achieve when different video templates have massively different coloring and intensity. Also, we made the decision to classify our permutations into genres to provide the GUI with filtration options. It took some time and research, but we decided on a method involving permutations being stored in folders and subfolders, which the GUI will then traverse and output the contents in the chosen folder. This will be implemented later during this sprint. Lastly, we are still having issues with long posts, as seen **here.** This will be addressed as soon as possible.
