LearningTomorrow Report

**LearningTomorrow
Giovanni Lawand
Taras Tsebro
Tymofiy Sompura
Michael Jasinski**

The purpose of this project was to create a learning application that would allow the students of a particular class to create a course hub where students would be able to learn material posted, watch video files, and take quizzes pertaining to the course. As a student, there should be features such as changing the font size and font type, colour contrast, and zoom in and out to provide ease and comfort to learn.

As a teacher, I would be able to add course content, and lesson sections with relative ease, while also not having to worry about implementing all of the above features themselves. The app would process the files and would support the features mentioned accordingly. Due to some of the many issues that arose from the first time developing software as a team, some features would eventually have to be omitted as they would take much longer than expected to implement.

1.1 SPRINT 1 OVERVIEW

1.1.1 Sprint Overview:

Our goal for this sprint was to set-up the interface of our application. This includes adding the required interfaces and method signatures. There were no implementations in this phase.

1.1.2 Stories Selected for this Sprint:

- As a teacher, I want this application to support multiple file formats, like html, mp3, mp4 etc. so that I may convert my already existing material into this one place for all my students to use.

1.1.3 Team Capacity:

We expect to be able to complete the public interface of the application by November 15, 2023.

1.1.4 Participants:

Michael - NotesPane

Taras - VideoPane

Tymofiy - LTLauncher/LTApp/Quiz

Giovanni - LTApp/LTLauncher/Quiz

1.1.5 Tasks Completed:

1. The public interface for the Quiz class(es), NotesPane, VideoPane was added.
2. LTApp was completed.
3. LTLauncher has a base implementation, not fully done but the interface is set.

1.2 SPRINT 1 PRODUCT BACKLOG

Backlog: None, we completed the interface for the application.

The user stories we selected weren't specific but the interface for the application was set and we completed what was necessary to do.

1.3. SPRINT 1 CODE REVIEWS

Story Reviewed	Name of Reviewer	Pull Request Link
Added All Necessary Quiz Classes.	Tymofiy Sompura	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/10
Added LTLauncher and LTApp.	Giovanni Lawand	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/7
Added to VideoPane and Test Files.	Michael Jasinski	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/2
Added to NotesPane.	Taras Tsebro	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/3

1.4 SPRINT 1 RETROSPECTIVE

Meeting Participants:
- Michael, Tymofiy, Taras and Giovanni participated in the meeting.

• The sense of unity that the team had greatly enhanced the productivity of the team and allowed everyone to contribute comfortably. The speed in which this sprint happened was also significantly quicker, not only due to the lower amount of work assigned to this sprint but because we clearly established what needed to be done together.

• There were some practices that occurred during this sprint that should not happen again. This would include deleting the source branch of the merge requests, and pushing directly to main without working on a branch.

• Our team's best achievement during this sprint was when we were able to effectively communicate our expectations, and slowly watch them become a reality. Our poorest moment was through our bad practices, like pushing directly to the main branch, and accidentally pushing things that should have not been pushed at all.

2.1 SPRINT 2 OVERVIEW

2.1.1 Sprint Overview:

Our goal for this sprint was to implement the content classes. The content classes include NotesPane, QuizPane, ToolbarPane, LTEditor, LTViewer and the classes used in each class.

2.1.2 Stories Selected for this Sprint:

- As a student, I want to be able to access and view all the content of a course in one place, without having to manually sort all the files and open one at a time so that I don't waste time finding files when I am studying.
- As a teacher, I want to be able to upload all my files from a course folder and have them accessible to all my students so that I can convert my previous year's materials into resources for my new students.

2.1.3 Team Capacity:

We expect to be able to complete the introduction screen, and the basic content support by November 22, 2023.

2.1.4 Participants:

Michael - NotesPane and CourseContent (html support) Giovanni aided in Debugging.

Taras - VideoPane

Giovanni & Tymofiy - Preparing other classes for implementation / use.

Tymofiy - LTLauncher/TableOfContents for editor/Quiz classes.

Giovanni - LTApp/TableOfContents for viewers.

2.1.5 Tasks Completed:

- NotesPane was able to fully support the conversion of '.txt' files.
- VideoPane was able to fully support the conversion of '.mp4' files.
- LTLauncher (i.e. intro screen was ready)
- TableofContents for viewer and editor was completed.

2.2. SPRINT 2 PRODUCT BACKLOG

Backlog: Due to the length of Sprint 1, the implementation of certain features was not completed.

Both targeted user-stories were almost fully implemented.

2.3. SPRINT 2 CODE REVIEWS

Story Reviewed	Name of Reviewer	Pull Request Link
loadFile implementation in NotesPane.	Taras Tsebro	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/11
Expanding content of mp4 and text files.	Michael Jasinski	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/6
Implemented different question types for the quizzes.	Giovanni Lawand	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/16
Implemented Table of Contents for LTViewer.	Tymofiy Sompura	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/13

2.4 SPRINT 2 RETROSPECTIVE

Participants in the Meeting:
- Michael, Tymofiy, Taras and Giovanni participated in the meeting.

Some of moves that were good:

1. Clear and straight communication, most members knew what to work

on.

2. There is clear progression in the work, and members are working.

Some of the moves that were not good:

1. A member was lost in the sense of what to do; so addressing everyone in what they should do is something that can be done in the next sprint.
2. Inconsistent documentation was seen on some members' behalf.

Overall, this was a good sprint but there was a lot to be learned.

3.1 SPRINT 3 OVERVIEW

3.1.1 Sprint Overview:

Our goal for this sprint was to debug the main classes and add some accessibility features to the application.

3.1.2 Stories Selected for this Sprint:

- As a person with partial vision loss, I would like to be able to change font size so that it is easier for me to read written notes.
- As a student, I would like to change the font style so that it is easier for me to read the written notes in any html file.
- As a student, I am on the computer for a large portion of the day, where I often have to read off screens with small text (and other elements), and I end up getting a large headache and feeling very tired by the evening. So, I would like a website/application that I could use for school that wouldn't cause so much eye strain and be a little easier on the eyes.
- As a color-blind student, I want to be able to change the color contrast settings of the application from 5 different filters, such as Protanope, Tritanope etc. so that I can better distinguish different parts of course notes and content.

3.1.3 Team Capacity:

We expect to be able to complete the accessibility features other than text-to-speech, by November 30th, 2023.

3.1.4 Participants:

Michael - NotesPane, LTViewer.

Taras - VideoPane, LTViewer.

Giovanni & Tymofiy - TableOfContents for viewer and editor.

Tymofiy - Quiz classes.

Giovanni - LTViewer.

3.1.5 Tasks Completed:

- Zoom in and out feature completed.
- Colour Change mode completed.
- Font Size and Type Change completed.

3.2 SPRINT 3 PRODUCT BACKLOG

Backlog: Some functionalities were missing in Table of Contents and LTViewer. LTEditor needed a lot more implementation and Quiz classes were not fully completed. This ended up taking a lot of time

Thankfully all accessibility stories other than text-to-speech were completed.

3.3 SPRINT 3 CODE REVIEWS

Story Reviewed	Name of Reviewer	Pull Request Link
Table of Contents for LTViewer.	Taras Tsebro	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/15
Course Certification User Story.	Giovanni Lawand	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/25
Color Contrast Change.	Tymofiy Sompura	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/23

Font Type and Size Change.	Michael Jasinski	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/17

3.4 SPRINT 3 RETROSPECTIVE

Participants in the Meeting:
- Michael, Tymofiy, Taras and Giovanni participated in the meeting.

Some of moves that were good:

1. There was communication in most moves, and it was clear what was trying to be done.
2. Members are working hard on getting the project done.

Some of the moves that were not good:

1. Branch names were not appropriate in some areas (Font change had table of contents, not good naming in this case.)

Overall, this was a good sprint and lots was improved but there needs to be some more organizational efforts.

4.1 SPRINT 4 OVERVIEW

4.1.1 Sprint Overview:
Our goal for this sprint was finalizing any code and recording the demo.

4.1.2 Stories Selected for this Sprint:
- The main user stories were completed, anymore could not be completed.

4.1.3 Team Capacity:
We expect to be able to complete any outstanding main features by December 5th, 2023.

4.1.4 Participants:

Michael - NotesPane, LTViewer.

Taras - VideoPane, LTViewer.

Giovanni & Tymofiy - TableOfContents for viewer and editor.

Tymofiy - Quiz classes.

Giovanni - LTViewer.

4.1.5 Tasks Completed:

- Demo recording and finishing up remaining user stories.

4.2 SPRINT 4 PRODUCT BACKLOG

Backlog: Finishing up any stories mentioned in Sprint 3. Focus is on recording the demo.

Thankfully every task mentioned and is necessary to the application has been completed, and the demo recording was completed, so this sprint went well.

4.3. SPRINT 4 CODE REVIEWS

Story Reviewed	Name of Reviewer	Pull Request Link
Zoom in and out.	Michael Jasinski	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/26
Debugging Color Contrast and Font Change.	Giovanni Lawand	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/22
Implementing LTEditor classes.	Taras Tsebro	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/17
Added accessible course content (i.e the content is audible.).	Tymofiy Sompura	https://mcsscm.utm.utoronto.ca/csc207_20239/group_32/-/merge_requests/21

Participants in the Meeting:
- Michael, Tymofiy, Taras and Giovanni participated in the meeting.

Some of moves that were good:

1. Demo was recorded, and the process was smooth.

Some of the moves that were not good:

1. Nothing was bad this time around, all the original complaints were fixed where applicable.

Overall, this was a good sprint and there is not a lot to change.

In this final section, briefly summarize both your project **accomplishments** and its **limitations**.

Limitations:

There were many accomplishments and limitations that were realized through this project.

There were numerous limitations that unfortunately hindered the production and development of this application.

One of the most challenging limitations that we had to face was that our group had very conflicting schedules, as many of the members were working jobs and other classes in addition to working on the project. With conflicting schedules not making it possible to progress daily in all aspects of a given sprint, (I.e. one member works on the project during the night, while two others work a night shift.) daily scrums were not a realistic expectation and oftentimes our scrum meetings had to clarify what was worked on before the meeting, leading to various inefficiencies.

Another massive limitation was not understanding how merge conflicts would be solved. There were multiple instances, where developers unknowingly chose one

piece of code (out of two) when the code was dependent on both pieces. This forced members to get familiar with discarding changes, and reverting a branch.

One very odd final limitation was the degraded quality of gitlab around December 3-5th. This had the strong negative impact of stalling the whole process of putting the whole project together, as it would often take 20+ mins for a single commit at its worst. The final limitation to this project was arrogance. A lot of group members thought that they would be able to tackle much more than they were able to in the given timeframe.

Ultimately, the group had to cut down on many cool and useful quality of life features that would have been great additions.

Accomplishments:

In terms of accomplishments, our team achieved great objectives throughout the development of this application.

Firstly, we were able to build our first GUI from scratch as a team, with all of us having put in some effort. Next, we were able to create a fully functional and useful application that anyone could use to study and organize future course material. We took the initiative and the challenge to build something practical through our own design and intuition, something that could provide service somewhere. This is a huge accomplishment, as most of us have only written simple programs before, but never something so much more complex, with design, style, webpages, html from scratch. We were also able to collaborate with new individuals, learn to effectively delegate work, and work as a team. The experience that CSC207 has provided will prepare us for our future as programmers and computer scientists.

Furthermore, we learned how to effectively comment code, so that our peers can understand how to use the code we have written practically. The most important concept that we learned through this project however, was how much time and skill a software development team must have to succeed in their tasks.