Learning Module #8 - Cover Sheet

P-Type 2 with Sean, Ryan, and Oleksandr

April 15th, 2025 to May 21st, 2025 (Period F)

Learning Module #8 - Write Up
P-Type 2 with Sean, Ryan, and Oleksandr
April 15th, 2025 to May 21st, 2025

- **Goals**:
    - For this learning module, Sean, Ryan, and Oleksandr planned to make a better version of P-Type. This new version was supposed to have better efficiency, a full backend, and microtransactions. In other words, users of P-Type would have the ability to sign-in and create their own accounts. Also, they would have the opportunity to purchase items on the website through microtransactions. Lastly, this team wanted to make P-Type have a better design and feel for its users. Ultimately, their goal was to expand their coding, website-building, and gaming design skills.
- **Accomplishments and Problems**:
    - Accomplishments: Over the course of this learning module, Sean, Ryan, and Oleksandr were able to accomplish most of their goals. They built a new website for P-Type 2 with better efficiency, designs, and a full backend. As a result, users can easily create accounts and save their progress. This feature was developed on the old version of their website. The team did not have enough time to implement the feature onto their newly redesigned website. Also, Sean, Ryan, and Oleksandr were not able to implement microtransactions to their website. This part of the plan was cut due to time constraints and problems associated with the backend.
    - Problems: Sean, Ryan, and Oleksandr faced numerous challenges and problems over the course of their learning module. Some of the most prominent issues included:
        - *Implementing a Backend*: Creating a backend for user accounts was the biggest challenge of the entire project. Sean, Ryan, and Oleksandr were all completely new to this process. The first issues arose from downloading Node.js, where Oleksandr specifically could not access it on his computer. He decided to restart and update his computer, which seemed to work. However, more issues arose when no one part of this team could access the live server, which prevented them from testing signing in and out from user accounts. Eventually, Ryan was able to find the correct programs that allowed the live server to be activated on all of the computers. Ultimately, they were able to make user accounts a feature on their website after many attempts and failures. However, they did not have enough time to implement the account sign-in feature onto their newly redesigned website.
        - *Navigating Blocked Content*: This issue mainly pertained to Sean because the localhost on his computer was always blocked. After many tries to get

it unblocked, Sean consulted with Mr. Jaw. Ultimately, the localhost on his computer was unblocked and he gained full access to the website, allowing him to build it with his partners.
        - *Disorder with VS Code*: Oleksandr faced many issues with VS Code. Specifically, the files on his computer would all open out of order on VS Code, which made it very difficult to work on the project. Eventually, Oleksandr discovered this issue stemmed from having duplicate files of the same code on his computer. In the end, he was able to overcome this issue by deleting the unnecessary files of code.
        - *Limited Time*: Due to AP testing and end-of-the-year activities, Sean, Ryan, and Oleksandr missed many days of their learning module. As a result, they had limited time to collaborate and continue working on their project. This ultimately prevented them from being able to implement microtransactions into their game, which is something they hoped to do in the beginning.
    - Helpful Information: In order to avoid these problems, Sean, Ryan, and Olekandr have some suggestions. They recommend future groups to find or create a step-by-step process for implementing a backend through Node.js. Creating a backend requires a lot of different programs, which could become very confusing if not handled in an organized manner. Additionally, in terms of organization, future groups should try to keep their files and code extremely clean and organized in order to avoid issues described above. Moreover, it is important to understand that it is acceptable to ask for help when needed, especially when trying to overcome challenges similar to Sean's problems with a blocked localhost. Lastly, future groups should allow ample time for this type of project, considering it has a lot of parts.
- **Learned**:
    - What Was Learned: By the end, Sean, Ryan, and Oleksandr learned a lot from doing this project. Firstly, they practiced their skills with JavaScript, HTML, and CSS, which are all very useful coding languages to know. Additionally, they all learned how to use AI in a responsible way in order to help them fix bugs and errors in their code. Most importantly, the team learned the process of building a full backend to create user accounts. They worked with Node.js and MongoDB to fully implement a backend to their website. All of this knowledge is very applicable to any future projects they decide to undertake.
    - What Should Have Been Done Differently: If Sean, Ryan, and Oleksandr were to do this project again, they would have decided to have a more organized approach to building their project. For instance, Ryan was able to install and get the backend working on his computer much earlier than his partners. As a result, Sean and Oleksandr were falling behind in building the website. Instead, they should

have installed the necessary programs for the backend at the same time in order to avoid confusion and miscommunication between all of the partners. Other than that, Sean, Ryan, and Oleksandr would have attempted to be more focused and on task during their in-class work days. This would have prevented them from stalling any potential progress, learning, and growth.

- **Future Learning Modules**:
    - Suggestions: Sean, Ryan, and Oleksandr suggest people interested in building a fully functional website to pursue this type of activity. However, future groups should be aware of the development process associated with building a website. They should be comfortable with pursuing JavaScript, HTML, and CSS. Moreover, future groups should become familiar with development tools, such as Node.js and MongoDB. Finally, it is very important to work on the backend environment simultaneously, stary well-organized and documented, ask for help when needed, and manage time wisely.
    - Additional Things: In the future, Sean, Ryan, and Oleksandr could decide to implement microtransactions to their website, which was part of their original plan. Also, they could add more levels or different types of activities other than typing to their game. Most importantly, they could use their newly acquired skills to build new websites with new purposes other than entertainment. This could help them pursue projects that could be even more applicable in the real world.
- **Summary of Experience**:
    - Overall, Sean, Ryan, and Oleksandr had a good experience with building their game website. They enjoyed working and overcoming challenges together. They think that they learned a lot of new knowledge and acquired a lot of new useful skills for the future. For instance, they became more comfortable with using JavaScript, HTML, and CSS. Also, they explored the process of building a backend by using Node.js. Although they felt frustrated at some points, they still feel very proud of what they were able to accomplish given the time that they had at their disposal. Sean, Ryan, and Oleksandr recommend this type of learning module to everyone and believe this could be a big learning opportunity. Ultimately, they consider this project a success.

Learning Module #8 - Daily Log
P-Type 2 with Sean, Ryan, and Oleksandr
April 15th, 2025 to May 21st, 2025

WORK AT SCHOOL:

April 15th, 2025 - 11:35-12:15 - Period F
Sean and Oleksandr
Day #1

- Without Ryan, Sean and Oleksandr did not have access to the P-Type 2 code. As a result, Sean and Oleksandr did some research on node.js. They found some websites and videos that helped them understand this coding language. They will set up the coding files tomorrow once Ryan returns.

April 16th, 2025 - 11:35-12:15 - Period F
Sean, Ryan, and Oleksandr
Day #2

- Today, Sean and Oleksandr spent the day downloading all the necessary programs for their game. While doing that, they helped Ryan fix an issue with sharing the code. However, the issue is still persistent. Ryan plans to fix it at home so they can start collaborating on building the code.

April 17th, 2025 - 11:35-12:15 - Period F
Sean, Ryan, and Oleksandr
Day #3

- In class, Oleksandr finished downloading all the necessary programs for the code. Sean hit a roadblock because the localhost was blocked on his computer. He contacted Mr. Jaw. Ryan continued fixing the issue with that code that prevents him from syncing with github. Needed programs:
    - Node.js
    - Npm install express
    - Npm install socket.io
    - Npm install mongodb
    - Npm install mongoose

April 28th, 2025 - 12:20-12:50 - Period F
Sean, Ryan, and Oleksandr
Day #4

- Today, Oleksandr began to add some design changes to the game. He began to experiment with colors, fonts, and animations to make the website more visually

appealing. Sean had trouble downloading all of the necessary code and programs onto his computer. Also, Ryan had issues with uploading his code to Github. They plan to fix these issues and move further tomorrow.

April 29th, 2025 - 12:20-12:50 - Period F
Sean, Ryan, and Oleksandr
Day #5

- Today, everyone had issues. Sean could not get his website unblocked. Also, Oleksandr had issues with opening files from Github onto VS Code. Fortunately, Ryan was able to fix his issue and is now able to commit changes and upload them to Github.

April 30th, 2025 - 12:20-12:50 - Period F
Ryan and Oleksandr
Day #6

- During class, Ryan got into a new issue with the database. He was unable to access it. He worked on trying to fix it the entire period. Oleksandr was able to fix his issue, but the files he opened were not organized. As a result, Oleksandr worked on another computer for the day.

May 1st, 2025 - 12:20-12:50 - Period F
Sean, Ryan, and Oleksandr
Day #7

- In class, Ryan continued working on solving the issue with the database and the localhost. Sean finally fixed his issue from previous days and is now able to work on the project from his computer. Oleksandr continued adding some design elements to the sign-up page of the game.

May 2nd, 2025 - 11:35-12:15 - Period F
Sean, Ryan, and Oleksandr
Day #8

- During class, Oleksandr kept working on the design of the page. He had trouble with the password strength bar because it would not show up on the screen. Sean and Ryan went to technology to have the issue with the blocked host fixed.

May 5th, 2025 - 11:35-12:15 - Period F
Sean
Day #9

- Ryan and Oleksandr were absent due to AP testing. Sean spent the day testing all of the computers for bugs. He noticed that only his computer had all of the issues resolved.

May 6th, 2025 - 11:35-12:15 - Period F
Sean and Oleksandr
Day #10

- Ryan was absent due to AP testing. Sean and Oleksandr continued working on the project. Sean found that Oleksandr needed to redownload Node.js onto his computer. Oleksandr plans to do this next class to allow more time for download. During class, Oleksandr added more design elements to the sign-up page of the game.

May 7th, 2025 - 11:35-12:15 - Period F
None
Day #11

- Ryan and Oleksandr were absent due to AP testing. Sean was absent for other reasons and will make up his work later.

May 8th, 2025 - 11:35-12:15 - Period F
Sean and Oleksandr
Day #12

- Ryan was absent due to AP testing. Oleksandr and Sean worked on getting their websites up and running. After many tries, they were able to open the website on Oleksandr's computer. Now, they just have to fix Ryan's computer.

May 9th, 2025 - 11:35-12:15 - Period F
Sean and Ryan
Day #13

- Oleksandr was absent due to AP testing. Ryan had to redownload the programs used for the game in order to fix his computer. Sean continued coding the project in order to make the sign-in page work.

May 12th, 2025 - 11:35-12:15 - Period F
None
Day #14

- Sean, Ryan, and Oleksandr were absent due to AP testing.

May 13th, 2025 - 11:35-12:15 - Period F
Sean
Day #15

- Ryan and Oleksandr were absent due to AP testing. Since this day counted as an AP day for everyone, Sean used this day as a study hall.

May 14th, 2025 - 11:35-12:15 - Period F

Sean, Ryan, and Oleksandr
Day #16

- Today, Sean, Ryan, and Oleksandr used this time to catch up on their coding. They fixed each other's bugs and linked the new sign-on page to the live server. Now, they are working on adding the p-type game onto the live server.

May 15th, 2025 - 11:35-12:15 - Period F
Sean and Ryan
Day #17

- Oleksandr was absent due to AP testing. Sean and Ryan found an error on the sign-up page. They spent the period looking for other affected areas of the game and code.

May 16th, 2025 - 11:35-12:15 - Period F
Sean, Ryan, and Oleksandr
Day #18

- Today, the group worked on fixing the issue from yesterday. They noticed that an empty password is sent to the database and then it is rejected. This eventually results in an error that shuts down the server.

May 19th, 2025 - 11:35-12:15 - Period F
Sean, Ryan, and Oleksandr
Day #19

- Today, Oleksandr and Sean worked on testing the game. Ryan worked on fixing the word banks for the words that show up on the typing game. Each level has a theme and Ryan has chosen to complete the themes. Oleksandr started working on fixing the backend for the website.

May 21st, 2025 - 11:35-12:15 - Period F
Sean, Ryan, and Oleksandr
Day #20

- For their last day, Sean, Ryan, and Oleksandr worked on adding finishing touches to their project. They worked on fixing up the word banks for each of the levels. Also, they fixed some design elements to make the website look even better. Overall, they are done with their project.

<u>WORK AT HOME</u>:

May 8th, 2025 - 7:00 PM to 9:00 PM
Ryan
Work at Home #1

- Ryan worked to look up how to connect a database to ptype2, he chose Mongodb and looked up on Youtube how to mongodb atlas, and he also made a base page for pytpe2.

April 31th, 2025 - 8:40 PM to 10:50 PM
Sean
Work at Home #1

- At home, Sean set up the project on his home computer. He installed all the necessary programs in order for the code to run. Then, he started working on designing the levels page for the game. He added new buttons and text fields. Also, he created a level 1-10. Overall, the page now has levels.

April 30th, 2025 - 8:40 PM to 9:50 PM
Oleksandr
Work at Home #1

- At home, Oleksandr set up the project on his home computer. He installed all the necessary programs in order for the code to run. Then, he started working on designing the sign-up page for the game. He added new buttons and text fields. Also, he created a color scheme and added some hovering features. Overall, the page now looks more visually pleasing and user friendly.

May 7th, 2025 - 7:10 PM to 8:35 PM
Oleksandr
Work at Home #2

- Oleksandr spent his time at home reinstalling Node.js and all the other necessary programs through the terminal. After many tries, he finally got the website to work. Now, he is able to sign in and sign out from the game on his personal computer. However, he noticed that some of the pages on the website were jumbled. He plans to fix this organization during class.

May 18th, 2025 - 2:00 PM to 5:45 PM
Oleksandr
Work at Home #3

- At home, Oleksandr completely redesigned the game. He added color schemes, animations, and easy navigation throughout the website using buttons. Also, he created ten levels for the game. At the same time, he made the game easy to use for any type of user. However, Oleksandr was not able to make the backend work properly. He needs help from his partners to make sure users can sign-in and have their progress saved.

<u>MAKE-UP WORK</u>:

May 19th, 2025 - 8:00 PM to 8:30 PM
Ryan
Make-Up for Day #1

- Ryan went home to try to reconnect the database after the accident regarding the update to mongodb atlas.

April 30th, 2025 - 3:00 PM to 3:40 PM
Sean
Make-Up for Day #6

- At home, Sean continued coding the levels and making them work better. He also did more research on how Node.js works.

May 7th, 2025 - 4:00 PM to 5:00 PM
Sean
Make-Up for Day #11

- At home, Sean continued coding the levels by adding the word bank and by making the levels get harder as the user keeps going through them. He also watched videos.

Learning Module #8 - Resources
P-Type 2 with Sean, Ryan, and Oleksandr
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- **Coding Languages**:
  - JavaScript
    - Used for adding behaviors to a website, making it interactive and dynamic.
  - HTML
    - Used to structure and present content on webpages (headers, text, images, etc.).
  - CSS
    - Used for creating a visual design for the elements created in HTML.
- **Website-Building Platforms**:
  - GitHub: *https://github.com/*
    - Used to store, track, and collaborate with code.
  - VS Code: *https://code.visualstudio.com/*
    - Used for writing, debugging, and managing code.
  - Vercel: *https://vercel.com/*
    - Used to deploy the website to the public.
  - Node.js: *https://nodejs.org/en*
    - Used to create the backend for website sign-in and personal accounts.
  - MongoDB: *https://www.mongodb.com/*
    - Used to create the backend for website sign-in and personal accounts.
- **Project Inspiration**:
  - P-Type:
    - Sean and Ryan's previous project used as a reference for the process of building a website.
  - Monkey Type: *https://monkeytype.com/*
    - A typing game used as a framework for this project.
- **Additional Assistance**:
  - ChatGPT: *https://openai.com/index/chatgpt/*
    - An AI used for debugging and writing sections of code.
  - DeepSeek: *https://www.deepseek.com/*
    - An AI used for debugging and writing sections of code.
  - Stack Overflow: *https://stackoverflow.com/questions*
    - An online forum for coders to ask questions and find answers about errors, bugs, or specific programming languages.