Minecraft Add-ons

IT 4983 Capstone W01

Minecraft Add-ons Team 3

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Agenda

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  - IntelliJ IDEA
  - MariaDB
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Technologies Used - GitHub

- Our team decided to use GitHub as a repository because it is the most familiar application to us. However, there are numerous reasons why GitHub is a trustworthy and dependable application.

1. GitHub is free and great for open-source applications.
2. GitHub is a repository that enables collaboration and management.
3. GitHub makes it easy to track changes and maintain version integrity.
4. GitHub integrates well with other applications.

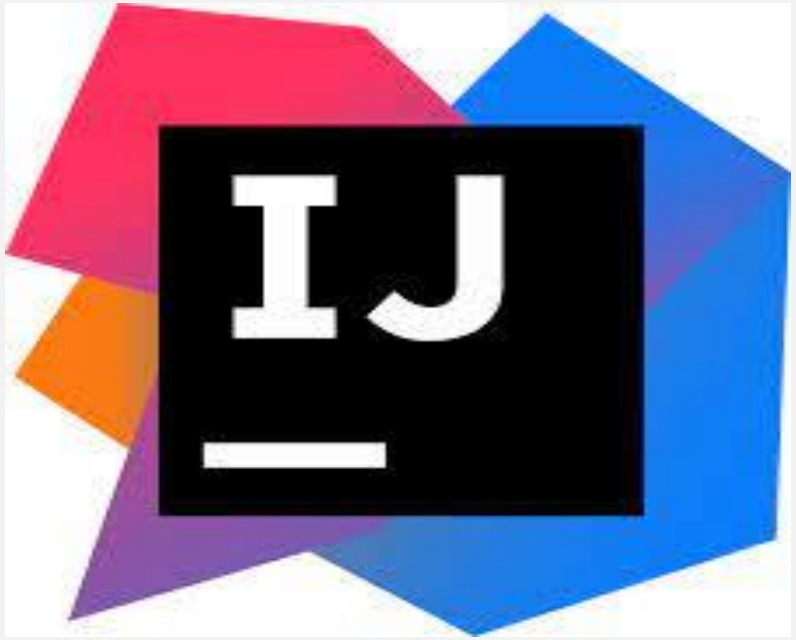
https://docs.github.com/en/get-started/quickstart/hello-world

Technologies Used – IntelliJ IDEA

- Our team decided to use IntelliJ IDEA as our integrated development environment (IDE) because it is the most familiar tool to us. However, there are numerous reasons why IntelliJ IDEA is a trustworthy and dependable IDE.

1. IntelliJ IDEA offered a robust and feature-rich environment for developing applications in a programming language like Java which is needed for Minecraft plugin development.
2. IntelliJ IDEA provided excellent code navigation, refactoring tools, and intelligent code completion.
3. IntelliJ IDEA integrated seamlessly with popular version control systems like Git, allowing us as Minecraft developers to easily manage code changes, collaborate with team members, and maintain version integrity.

https://www.jetbrains.com/idea/features/



Technologies Used – MariaDB

Our team decided to use MariaDB as our database management system because it is a familiar and widely adopted open-source solution. However, there are numerous reasons why MariaDB is a trustworthy and dependable database system.

1. MariaDB delivered superior scalability and faster query execution compared to MySQL, which made it an optimal solution for managing and processing large-scale data efficiently.
2. MariaDB is actively developed and maintained by a dedicated community, ensuring regular updates, bug fixes, and the introduction of new features to keep up with evolving technology/user demands.
3. MariaDB offered good security features, including encryption, role-based access control, and auditing capabilities, ensuring data integrity and protecting sensitive information from unauthorized access.

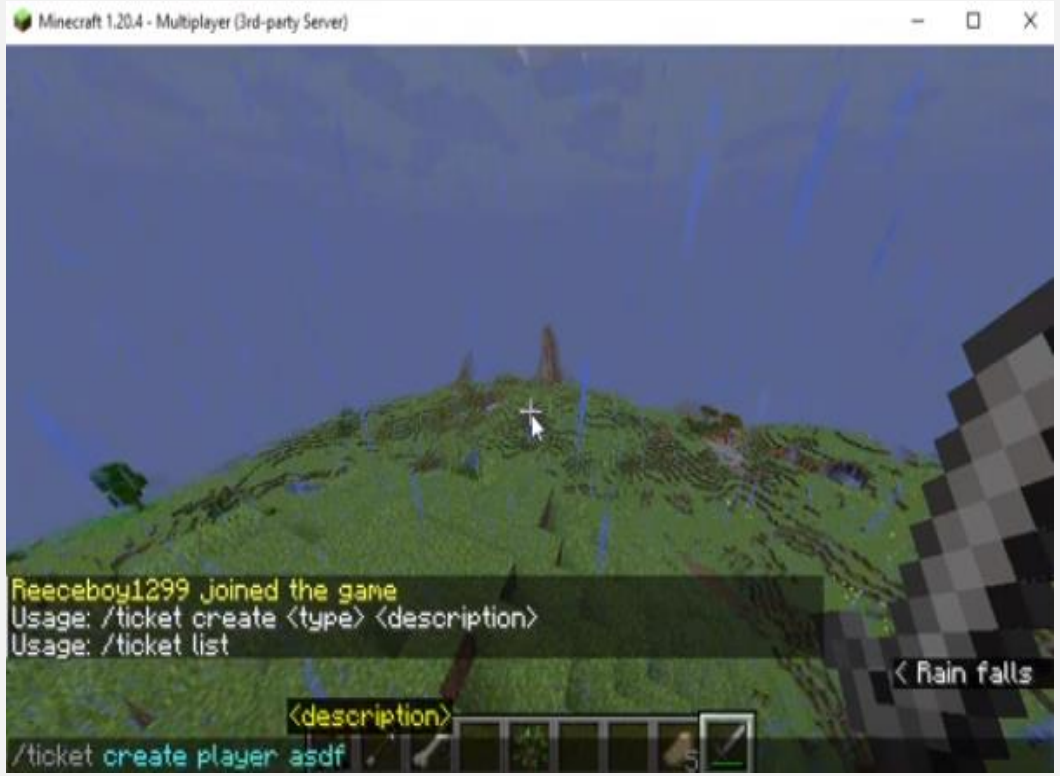
https://mariadb.com/kb/en/mariadb-vs-mysql-features/

Milestone 1 Recap

Architecture Draft

- **PaperMC Plugin:**
  - Implements the core functionality of the ticketing system within the Minecraft server environment.
  - Handles the creation of tickets in-game through the /ticket command.
  - Establishes connections to the MySQL database and Discord server(s) for saving and sending ticket information.
  - Checks for incoming messages from players and sends ticket details to be stored in the database and sent to Discord.
- **MySQL Database:**
  - Stores ticket information, including player names and ticket messages.
- **Discord Bot:**
  - Acts as a bridge between the Minecraft server and Discord server.
  - Checks for incoming ticket alerts from the PaperMC Plugin and forwards them to the correct Discord channel.
  - Facilitates real-time communication of ticket information to server administrators or moderators on Discord.
- **Interactions:**
  - Player Interaction: Players interact with the server by typing the /ticket command to create tickets.
  - PaperMC Plugin Interaction: The PaperMC Plugin receives ticket creation requests from players, sends ticket information to the database, and finally sends ticket alerts to the Discord Bot.
  - MySQL Database Interaction: The PaperMC Plugin interacts with the database to store and pull ticket information.
  - Discord Bot Interaction: The Discord Bot receives ticket alerts from the PaperMC Plugin and posts them in a specific Discord channel.

Test Server Set-up



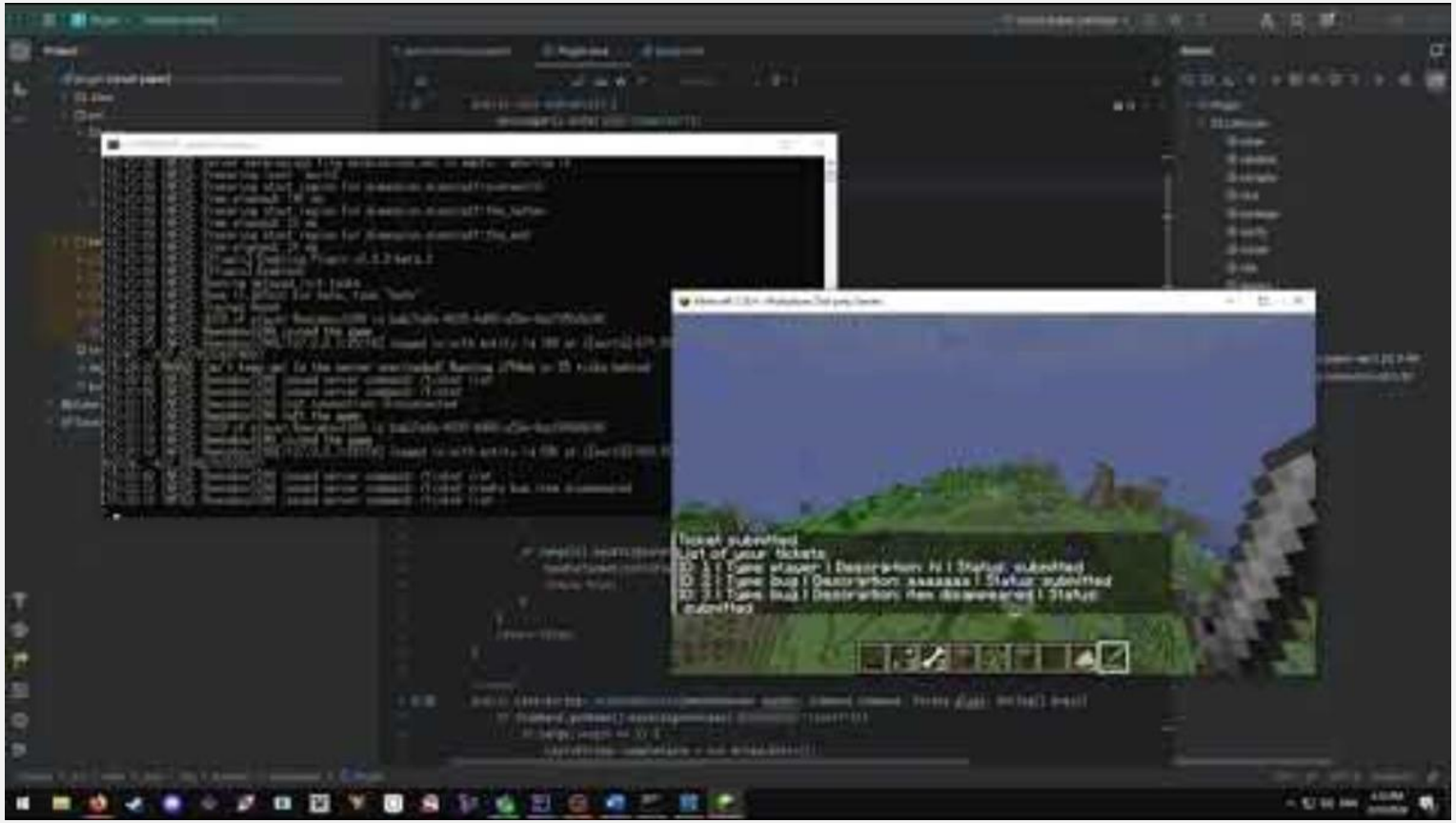
Project Summary

- According to our project plan, our deliverable is Milestone 2 , due on 3/22.
- The content listed under our Milestone 2 deliverable within the Project Plan was updated to meet the sponsor's needs. This included coding the plug-in, implementing chat commands within it, and connecting it to a database.
- So far, our team has made great progress, and is keeping up with the due dates that we originally planned out in our Project Plan.
- We have been making sure to meet at least once a week online as a team, along with communication within our Microsoft Teams chat.
- We are on track to start the next phase of this project and begin to get ready for the Milestone 3 deadline.

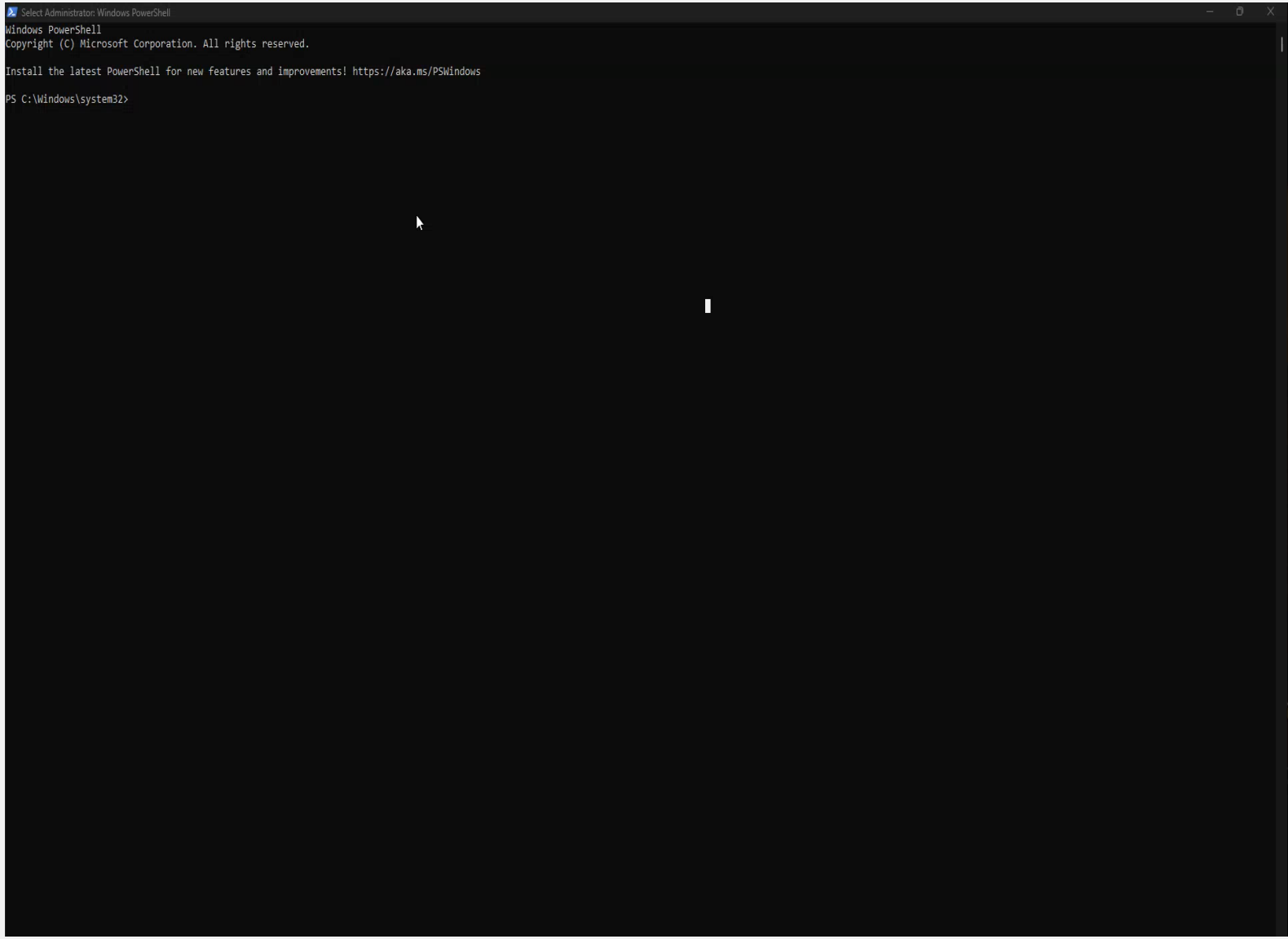
Milestone 2 Assessment

- We had 2 main objectives from our sponsor this Milestone 2.
- Objectives for Milestone 2:
  - Implement chat commands - Completed
  - Set-up plug-in to connect with database - Completed

Plug-in Demo



Database Demo



Gantt Chart

- Gantt Chart through Milestone 2 completion

10	**Milestone 2**	**28 days?**	**Mon 2/19/24**	**Mon 3/18/24**		
11	Familiarize Yourself With Current Minecraft System	6 days	Mon 2/19/24	Sun 2/25/24		Alex,Reece,Ryan,L
12	Start Coding Add-on	4 days	Mon 2/26/24	Thu 2/29/24	11	Alex,Reece,Ryan (backup)
13	Implement Minecraft Chat Commands	3 days	Fri 3/1/24	Sun 3/3/24	12	Alex,Reece,Ryan (backup)
14	Test Chat Commands	2 days	Mon 3/4/24	Tue 3/5/24	13	Liliana,Tristan,Rya (backup)
15	Report Any Bugs/Issues	1 day	Wed 3/6/24	Wed 3/6/24	14	Liliana,Tristan,Rya (backup)
16	Fix Any Bugs/Issues	4 days	Thu 3/7/24	Sun 3/10/24	15	Alex,Reece,Ryan (backup)
17	Set-up Plug-in to Connect with SQL-like Database	2 days	Mon 3/11/24	Tue 3/12/24	16	Alex,Reece,Ryan (backup)
18	Catch-up Week	7 days	Mon 3/11/24	Sun 3/17/24		Alex,Reece,Ryan,L

Key Takeaways

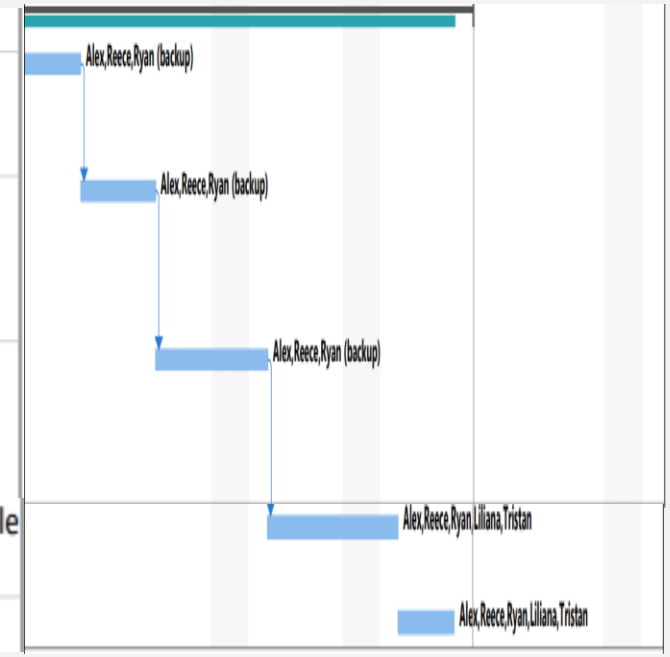
- Greatly improved progress by setting schedule / divvying up the work
- Asking questions improved communication / clarified goals and workloads
- Selecting the correct software helped immensely
- Originally tried going through amazon AWS / Azure, MariaDB ended up solving problems.

Looking Ahead to Milestone 3

- Gantt Chart for Milestone 3
- The 3 main objectives for Milestone 3: Storing all required information in database, polishing the UI, and pushing in-game tickets to Discord channel

19	**Milestone 3**	**22 days?**	**Mon 3/25/24**	**Fri 4/19/24**		
20	Touch Up Plug-in/Polish UI	5 days	Mon 3/25/24	Fri 3/29/24		Alex,Reece,Ryan (backup)
21	Start Storing Required Information In the Database	4 days	Sat 3/30/24	Tue 4/2/24	20	Alex,Reece,Ryan (backup)
22	Push In-game Tickets to Discord Channel	4 days	Wed 4/3/24	Mon 4/8/24	21	Alex,Reece,Ryan (backup)
23	Testing/Fixing Week	5 days	Tue 4/9/24	Mon 4/15/24	22	Alex,Reece,Ryan,
24	Catch-up Days	3 days	Tue 4/16/24	Thu 4/18/24		Alex,Reece,Ryan,

Break/fix cycle



Questions?