Mega Man X

Sprint 4
December 1, 2024
Client: Dr. Galloway

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CS 360
Fall 2024
Project Organization Documentation

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1 Project Team's Organizational Approach

Sprint 1: Our team will focus on establishing the feasibility of the Mega Man X project and setting the foundation for effective software project management. During this phase, we will conduct a thorough analysis to assess the technical and logistical viability of the project, ensuring that our goals are realistic and achievable. We will also prioritize developing a comprehensive project plan that outlines the timeline, milestones, and resource allocation. This plan will be crucial for guiding our efforts and tracking progress throughout the project. Additionally, we will set up the necessary project management tools and processes to facilitate clear communication, task assignment, and progress monitoring. By addressing these key areas in Sprint 1, we aim to lay a solid groundwork for the successful execution of the project as a whole. Our team has also decided to approach the Mega Man X project with a strategic mindset. After discussing our objectives and evaluating each member's strengths, we believe that assigning specific roles will enhance our organization and productivity. Kaden Groves will take on the role of Project Manager, responsible for the overall planning and coordination of the project. This role involves developing the project plan, setting milestones, and ensuring that the project stays on schedule. The project manager will also manage the team by assigning tasks, resolving conflicts, and maintaining effective communication among team members, serving as the primary point of contact for stakeholders. Ryan Rutledge will assume the role of Software Developer, focusing on writing and testing code to implement the game's features and functionalities. Ryan will be responsible for coding specific parts of the game based on the project's requirements and design specifications, with debugging being a key aspect of their role to ensure smooth operation. Collaboration with other developers and team members will be essential for integrating different components of the game effectively. Eli Adkisson and Chessor will each take on the role of Software Engineer. They will be concerned with the system design and architecture of the game, ensuring it is scalable, efficient, and maintainable. They will provide technical guidance on best practices and solutions, addressing complex engineering problems that arise, and integrating various components of the game to ensure they work together seamlessly. Their expertise will be crucial for resolving technical challenges and optimizing performance and resource utilization. By leveraging each individual's unique skills and expertise, we aim to optimize our workflow and ensure that every aspect of the project is handled efficiently, ultimately achieving a successful outcome for our game replica..

Sprint 2: Our team has adopted a similar approach to meetings as we did in the previous sprint, emphasizing flexibility while proactively organizing times for the entire group to collaborate on the project. We plan to continue with a weekly meeting involving all four team members to review progress and address any overarching concerns. These meetings will be conducted via Discord unless any technical issues arise. In addition to this, we have a scheduled client meeting with Dr. Galloway every Friday at 12 pm to ensure that our goals are aligned with the client's expectation and receive feedback on whether our team is adequately meeting the clients desired criteria. To facilitate ongoing progress and address questions, we will also hold several smaller meetings throughout the week. Given our four-member team, these sessions will typically involve two or three members. Kaden Groves will continue to serve as the project manager for this sprint, ensuring that our efforts remain focused and coordinated.

Sprint 3: With this sprint shifting towards coding and implementation, our team has decided to increase the number of meetings to ensure we're staying on track and moving efficiently through the development process. While we've been focusing heavily on documentation and design in the previous sprints, we are now prioritizing hands-on coding, which requires more real-time collaboration. We're optimistic that, with our schedules, we can meet at least twice a week to discuss what needs to be worked on, ensuring that tasks are clearly defined, and priorities are set. Additionally, at least one of these meetings will be dedicated to a development session where the entire team will be on a call, working on the project simultaneously. This setup allows for immediate feedback, troubleshooting, and coordination, helping us maintain momentum and address any issues in real time. During these development periods, each team member will focus on their individual tasks while remaining available to assist others or collaborate on complex parts of the project. For this sprint, Kaden Groves will continue in the role of Project Manager, overseeing the planning, coordination, task assignments.

Sprint 4: Throughout this sprint, our team maintained a similar approach to meeting times as we had in previous sprints. We utilized Discord extensively to communicate updates on completed tasks, discuss remaining work, and address any challenges. Our client meeting time was adjusted to 3:30 PM, moving up 15 minutes from the previous 3:45 PM slot. Whenever possible, we convened as a full team, although coordinating schedules among four members with distinct availability proved challenging. To overcome this, we frequently held smaller meetings with two or three team members. These smaller, focused sessions allowed us to enhance our efficiency and

maintain consistent communication without waiting for full-team availability. Kaden Groves served as the project manager for this sprint. We chose him for this role because of his extensive experience from managing previous sprints, which made him well-suited to handle responsibilities such as drafting weekly progress reports and keeping the team aligned on deliverables and deadlines. His familiarity with the team's workflow and objectives further streamlined coordination and ensured steady progress.

2 Schedule Organization

2.1 Gantt Chart v1:

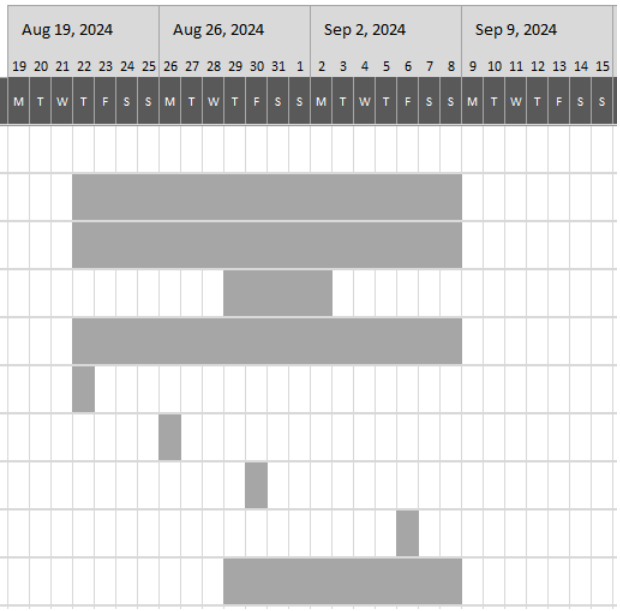
MEGA MAN X

Project Lead: Kaden Groves

Project Start: Thu, 8/22/2024

Display Week: 1

TASK	ASSIGNED TO	PROGRESS	START	END
Sprint 1				
Sprint 1 Organizational Doc	Kaden and Ryan	100%	8/22/24	9/8/24
Technical Document 1.1 - 1.5	Eli, Ryan, and Kaden	100%	8/22/24	9/8/24
Presentation 1	Chessor	100%	8/29/24	9/2/24
Gantt Chart for Sprint 1	Ryan	100%	8/22/24	9/8/24
Meeting1	All team members	100%	8/22/24	8/22/24
Meeting2	All team members	100%	8/26/24	8/26/24
Client/Team Meeting	All team members	100%	8/30/24	8/30/24
Client/Team Meeting	kaden,ryan,chessor	100%	9/6/24	9/6/24
Weekly Progress Assessments	Kaden	100%	8/29/24	9/8/24



Our team's focus for this sprint is to establish the feasibility of our project for the upcoming sprints. To ensure that our goals are realistic and achievable, we will be thorough with our analysis of the technical and logistical viability of the project. We will also give roles to team members to help categorize what kind of work each person would do. We also wish to start laying the groundwork for the ideas behind what our project will be like later on in the 14-week timespan we've been given to finish the project. It's important that all team members are on the same page when we get around to the implementation of the Mega Man X demo game. If we are clear with our instructions now, we will have less issues with the project in the near future.

2.2 Gantt Chart v2:

For this sprint, our team focused on planning out our code and layout of the project through diagrams and design patterns. Since our software engineers will be Chessor and Eli and the coding will be mainly handled by Ryan, it was best to let those three handle a good bit of the diagrams and the technical documentation. Because of this, we left most of the Organizational diagram to Kaden, and everyone pitched in on making the presentation. We've stayed roughly always on schedule, which is pretty good considering the work load for some of our members outside this class. We hope to stay diligent and keep up the good work for the rest of the project.

2.3 Gantt Chart v3:

For this sprint, the main focus is the implementation or coding phase of our Mega Man X project. This is a critical stage, as the coding brings the project to life and is the key deliverable for the client. We will take the

MEGA MAN X

Project Lead: Kaden Groves

Project Start: Thu, 8/22/2024

Display Week: 1

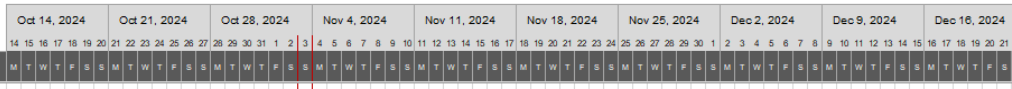
TASK	ASSIGNED TO	PROGRESS	START	END
Meeting2	All team members	100%	8/26/24	8/26/24
Client/Team Meeting	All team members	100%	8/30/24	8/30/24
Client/Team Meeting	kaden,ryan,chessor	100%	9/6/24	9/6/24
Weekly Progress Assessments	Kaden	100%	8/29/24	9/8/24
Sprint 2				
Technical Document 2.1-2.3	Ryan, Eli, and Chessor	90%	9/11/24	10/3/24
Sprint 2 Organization Doc	Kaden	100%	9/11/24	9/29/24
Gantt Chart for Sprint 2	Ryan	100%	9/11/24	9/23/24
Update Presentation	Everyone	100%	9/26/24	9/29/24
Sprint 2 Startup Meeting	All team members	100%	9/11/24	9/11/24
Meeting2	All team members	100%	9/19/24	9/19/24
Meeting3	All team members	100%	9/30/24	9/30/24
Client/Team Meeting 1	All team members	100%	9/13/24	9/13/24
Client/Team Meeting 2	All team members	100%	9/20/24	9/20/24
Client/Team Meeting 3	All team members	100%	9/25/24	9/25/24
Client/Team Meeting 4	All team members	0%	10/2/24	10/2/24
Weekly Progress Assessments	Kaden	100%	9/13/24	10/4/24

MEGA MAN X

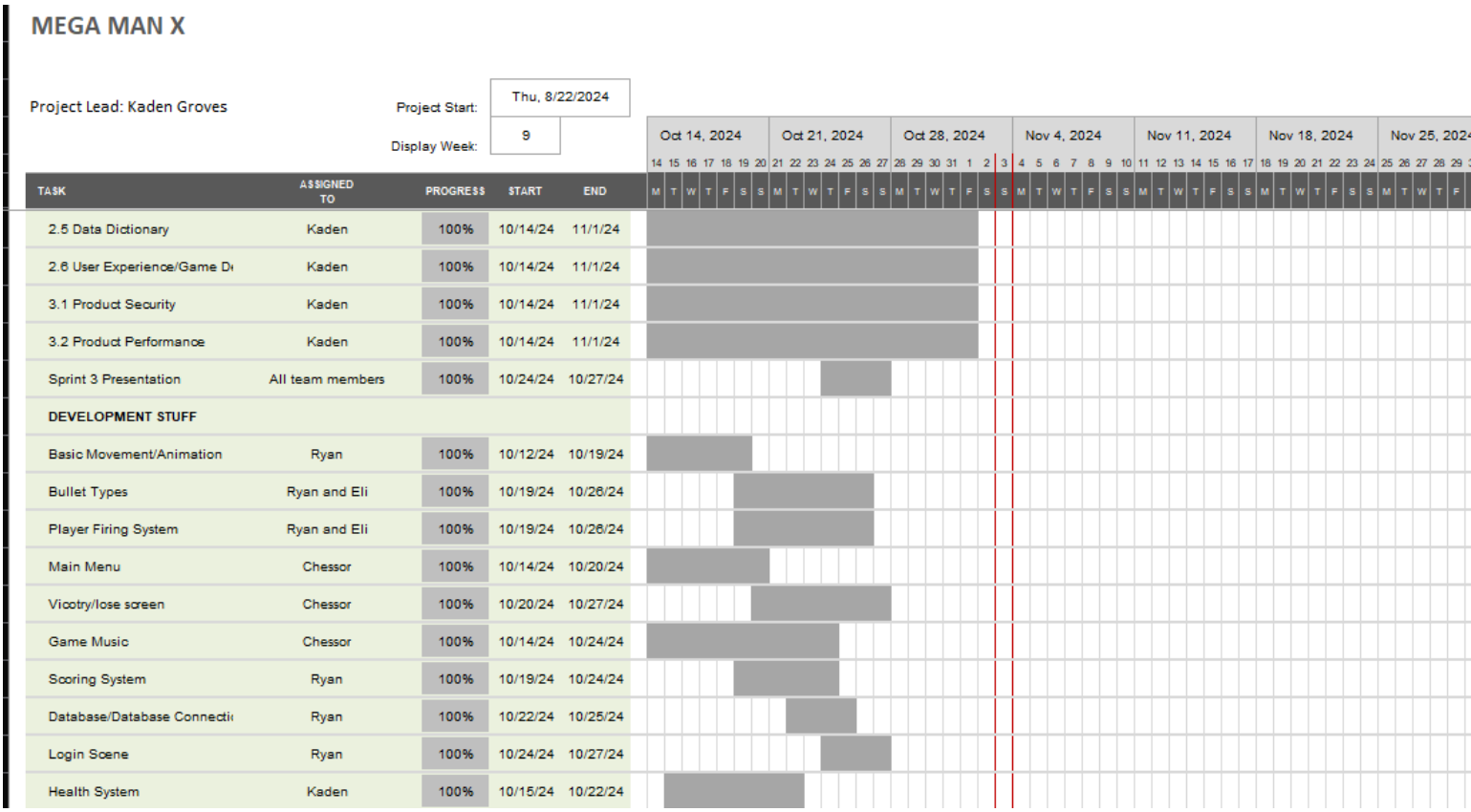
Project Lead: Kaden Groves

Project Start: Thu, 8/22/2024

Display Week: 9



TASK	ASSIGNED TO	PROGRESS	START	END
Sprint 3				
Team Meeting #1	All team members	100%	10/14/24	10/14/24
Team Meeting #2	All team members	100%	10/21/24	10/21/24
Client/Team Meeting #1	All team members	100%	10/16/24	10/16/24
Client/Team Meeting #2	All team members	100%	10/23/24	10/23/24
Client/Team Meeting #3	All team members	100%	10/30/24	10/30/24
Organizational Documentation				
Organizational Approach	Kaden	100%	10/14/24	10/15/24
Gantt Chart	All team members	100%	10/14/24	10/14/24
3.1 Sprint 3 Progress Visibility	Kaden	100%	10/14/24	10/17/24
4 Software Process Model	Kaden	100%	10/14/24	10/17/24
5.1 Risk Identification	Kaden	100%	10/14/24	11/1/24
5.2 Risk Planning	Kaden	100%	10/14/24	11/1/24
5.3 Risk Monitoring	Kaden	100%	10/14/24	11/1/24
Technical Documentation				
2.3 Updated UML	Ryan and Eli	100%	10/14/24	11/1/24
Updated Traceibility Table	All team members	100%	10/14/24	11/1/24
2.4 Usage of Micro/Macro SV	Kaden	100%	10/14/24	11/1/24



design patterns and UML diagrams created in Sprint 2 and work on converting them into functional code. This conversion is essential to ensure that our design is accurately reflected in the game's mechanics and functionality. We specified tasks much more thoroughly within this sprint as adding on coding implementation and testing significantly increases the work load. This puts our team within a heavy time constraint so we must be diligent in making sure that we accomplish the tasks in a sequential order as many of the coding segments peer into the others to make the system fully functioning. The Gantt chart from Sprint 3, detailing task assignments and time lines, is clearly labeled and located in the project directory for easy reference.

2.4 Final Gantt Chart:

In Sprint Four, our team is fully embracing the core objectives and deliverables outlined for this phase of the project. The primary focus is on conducting comprehensive testing to ensure the functionality and reliability of our system. We are beginning with unit testing, which will serve as the foundation for integration testing, where we assess the interactions between different modules. This will culminate in system testing, where the system is evaluated as a whole to confirm its performance, stability, and alignment with the project requirements. Beyond implementing these tests, a key aspect of this sprint is efficiently documenting both the testing process and the results. This includes detailing the methodologies used, any challenges encountered, and the outcomes of each testing phase. This technical documentation is critical for maintaining transparency, providing insights into our testing strategies, and supporting future iterations or audits. In addition to testing, we are dedicating significant attention to the development of our organizational document, which will encapsulate key elements such as meeting schedules, task allocations, and our approach to risk management. This document ensures that our processes remain structured and that risks are proactively identified and mitigated. By balancing the implementation of rigorous testing with detailed documentation, our team is striving to deliver a high-quality system while maintaining clarity and organization throughout this sprint.

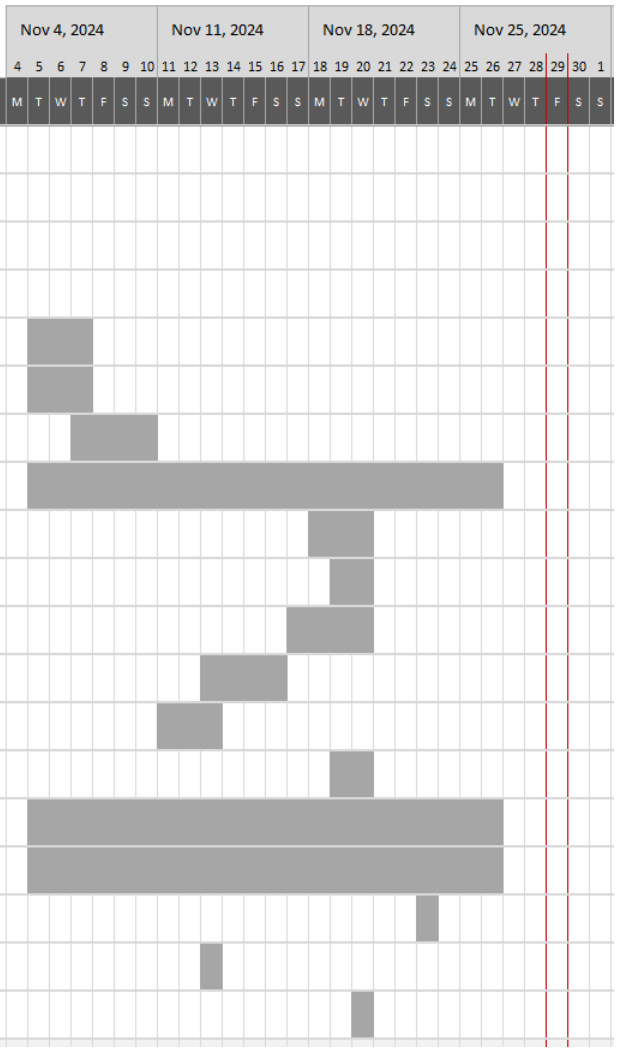
MEGA MAN X

Project Lead: Kaden Groves

Project Start: Thu, 8/22/2024

Display Week: 12

TASK	ASSIGNED TO	PROGRESS	START	END
Database/Database Connection	Ryan	100%	10/22/24	10/25/24
Login Scene	Ryan	100%	10/24/24	10/27/24
Health System	Kaden	100%	10/15/24	10/22/24
Sprint 4				
Create Database Unit Test	Ryan	100%	11/5/24	11/7/24
Create Score/Time Unit Test	Kaden	100%	11/5/24	11/7/24
Integration Testing	Kaden	100%	11/7/24	11/10/24
System Testing	All team members	100%	11/5/24	11/26/24
Acceptance Testing	All team members	100%	11/18/24	11/20/24
Credits Scene	Chessor	100%	11/19/24	11/20/24
More audio	Chessor	100%	11/17/24	11/20/24
Finished up animations	Ryan	100%	11/13/24	11/16/24
Finished implementation	Ryan	100%	11/11/24	11/13/24
Prepared Project For Builds	Ryan	100%	11/19/24	11/20/24
Technical Document	Eli and Kaden	100%	11/5/24	11/26/24
Organizational Document	Kaden	100%	11/5/24	11/26/24
Code Review	All team members	100%	11/23/24	11/23/24
Client/Team Meeting	All team members	100%	11/13/24	11/13/24
Client/Team Meeting	All team members	100%	11/20/24	11/20/24



3 Progress Visibility

3.1 Sprint 1 Progress Visibility

Our group is actively progressing with their assigned tasks Kaden Groves is focusing on the organization document and assisting others when needed. Chessor is taking a lead on creating the presentation for our in class presentation. Ryan Rutledge and Eli Adkisson are making great strides in completing the technical document before sprint 1 deadline.For each sprint, our group ensures progress by organizing tasks and responsibilities using a Gantt chart. This chart is our primary tool for task assignment, as it clearly outlines each member's responsibilities and deadlines. Each team member can view their assigned tasks on the chart, which serves as a constant reminder of their duties and helps maintain accountability. To facilitate effective communication and updates, we utilize a dedicated Discord server. This platform allows us to post updates, announcements, and share what we've worked on after submitting it to GitHub. This approach ensures that everyone is aware of each other's progress in real-time and can quickly address any issues or dependencies. Additionally, we aim to have two group meetings per week. These meetings are crucial for delegating tasks, seeking assistance, and working together in a collaborative environment. During these sessions, we can discuss any blockers, provide feedback, and ensure that we are all aligned with the project goals. When it comes to sharing progress with the client, we keep them informed by providing regular updates in our client meeting on Fridays at 12:00 pm. We share completed tasks, highlight any challenges we encounter, and discuss our plans for the upcoming sprint. This transparency ensures that the client is always aware of our progress and can provide feedback or adjustments as needed.

3.2 Sprint 2 Progress Visibility

Each time a task is completed, a message is posted in the progress tab within our project's Discord server. This keeps the team informed and ensures transparency. Additionally, we share a GitHub repository, where all members work on the same version of the project. We commit messages with each push to update the team on what has been accomplished.The team is making steady progress on their assigned tasks by focusing on the parts delegated during our planning meetings and working diligently toward completion. To keep the client informed, we held meetings every Friday at 12 pm to ensure we are meeting their expectations and staying on track with the project goals, but that has been changed to 3:45 pm on Wednesdays due to scheduling conflicts within the team. Scheduling has been an issues, but with proper communication it is possible for everyone to pitch in equally towards the goals of the project. Tasks are assigned during our weekly meetings, where we discuss who is comfortable with specific tasks. Once an agreement is reached, we proceed accordingly. When team members are either waiting for a task to be completed or need assistance, they use our dedicated Discord chat. This channel is specifically set up for questions and clarifications, fostering strong communication within the team. We also share completed tasks, highlight any challenges we encounter, and discuss our plans for the upcoming sprint. As far as who is doing what, Kaden is taking over the majority of the organizational documentation, while Eli, Ryan, and Chessor all work together to create the diagrams for the technical documentation that will be used later to create scripts needed for the game demo. This approach ensures that everyone is aware of what tasks are being worked on and the order in which they will be completed.

3.3 Sprint 3 Progress Visibility

Our team is rigorously focused on meeting our project objectives, with each member dedicated to their specific responsibilities assigned during our last team meeting. We began by thoroughly dividing the workload, leveraging our collective brainstorming sessions, as well as utilizing the UML diagrams and object-oriented design patterns created during the previous sprint. These resources provide a structured approach to our current sprint, offering us clarity on each task and its dependencies.To ensure smooth collaboration, we conduct regular team meetings, both in-person and virtual, where each member's responsibilities are confirmed and aligned with our project goals. We also rely on a Gantt chart as a primary tool for tracking progress, which visually represents each team member's assignments and deadlines. This enables us to monitor individual and collective progress in real-time and adjust task priorities as needed to maintain our project timeline. For version control, we've adopted a dual approach. We use Git to manage all documentation and code associated with the project outside of Unity, ensuring robust version control for files and documentation. For the game development itself, Unity's built-in version control system has

been instrumental, as it allows real-time tracking and easy integration of both code and asset changes. Unity's system simplifies versioning with a single-click update feature, letting team members quickly pull incoming changes and seamlessly integrate them into their local workspace. This tool alerts us to any conflicts or errors, allowing rapid troubleshooting and keeping the project moving forward smoothly. One limitation of Unity's version control is its restriction on the number of collaborators, allowing only three team members. Since our group consists of four members, we've needed to be especially diligent with communication, ensuring everyone stays updated. This has required consistent and careful coordination through our team's Discord channel, where we provide frequent updates on each member's progress and current focus areas. Any completed tasks are pushed to the repository with detailed comments that describe the changes, making it easier for the team to stay informed on the evolving project state.Our Gantt chart is updated with each milestone achieved, which serves as a real-time visual tracker of our sprint's progress. Additionally, each significant update is communicated through our Discord server, ensuring everyone is aware of the latest developments. In cases where a team member encounters a challenge, we utilize a designated Discord server and can quickly switch to one of our voice channels for collaborative problem-solving. This dedicated space allows for immediate responses, as one or more members can join a call to brainstorm and resolve issues together.

3.4 Sprint 4 Progress Visibility

for Sprint Four, our team will maintain a similar approach to progress visibility as we did in Sprint Three. This continuity is intentional, as we are leveraging the same version control systems to stay synchronized and ensure the accuracy of our project updates.To manage version control for our documentation, we are utilizing Git, which allows the team to stay current and make improvements to the documentation at any point during the sprint. This system ensures that all team members have access to the latest changes, fostering collaboration and reducing the risk of discrepancies. The testing phase of our project will primarily be conducted through C# scripts and the Unity engine. For this, we are employing Unity's built-in version control system, which is specifically tailored to handle Unity project files. This solution enables us to seamlessly implement, test, and monitor progress without version conflicts, ensuring that all team members are aligned and up to date. Recognizing that it is easy to overlook comments or updates from previous sprints, our team has taken proactive steps to mitigate this issue. After completing any task, team members send detailed updates to our project team's Discord channel. This consistent communication practice ensures that everyone is informed of progress in real-time, prevents misunderstandings, and enhances overall efficiency. By combining robust version control systems with a clear and continuous communication strategy, we aim to maintain high levels of collaboration and productivity throughout this sprint.

4 Software Process Model

The Software Process Model that our team is utilizing is the Sequential Development Model with feedback. This model enhances the quality of the final deliverables by organizing the work flow into distinct, sequential steps where each process must be completed before moving on to the next EX: Feasibility study, requirements, system design, program design, implementation, testing, maintenance.. This structured approach ensures that all project requirements are thoroughly addressed, reducing the risk of scope creep. The Sequential Development Model also supports the creation of thorough documentation at each stage, which is essential for tracking progress, monitoring tasks, and maintaining quality of deliverables. The progression from each stage of development is to be reviewed and validated by team members and discussed with the client before advancing to the next step. This continuous feedback helps our team identify and resolve any issues early in the process, ensuring that the final product is to par with the client's expectations and meets quality standards.

5 Risk Management

Our team's approach to risk management is centered on staying organized and acting swiftly. We prioritize the early identification of potential risks, meticulously plan appropriate responses, and continuously monitor the project to mitigate any issues that may arise. We plan on communicating the found risks and making it known

to all members of the group. This will allow our team to brainstorm on each individual risk and determine which risks should be prioritized for each sprint.

5.1 Risk Identification

We will regularly analyze our project for potential risks that could impact our timeline or the quality of our deliverables. Key risks we've identified include the potential for scope creep, technical challenges, and team availability. We aim to manage scope creep by maintaining strict adherence to our project scope, ensuring that any proposed changes are thoroughly discussed with the entire team. We are also committed to being proactive and familiarizing ourselves with the necessary technologies to prevent technical issues from hindering our progress. Another issue that may arise during this sprint with the increased workload is the mismanagement of tasks. It is possible that we may unintentionally forget something with having so much on our hands. Finally, team availability and organization are crucial, and we recognize the importance of managing these factors to keep the project on track.

5.2 Risk Planning

For each identified risk, our team will prioritize based on both the likelihood of occurrence and the potential severity of impact on the overall project. This helps us develop targeted plans that mitigate risk without diverting unnecessary resources. To manage scope creep effectively, we are committed to adhering strictly to the established project scope. We will carefully discuss any proposed changes with the entire team before implementing them, ensuring that each addition aligns with our primary objectives. Our priority is to complete essential game functionalities—such as core mechanics, the health system, enemy interactions, and the boss fight—before considering any additional features. By focusing on these foundational elements, we can guarantee a fully functional game, even if time constraints prevent us from adding enhancements. We have also established a clear distinction between "must-have" and "nice-to-have" features, which will help us focus our efforts on the core components. To address technical challenges, our team has allocated additional time specifically for learning and familiarizing ourselves with necessary software and tools. This proactive approach will allow us to quickly resolve potential issues and prevent technical difficulties from hindering our progress. Recognizing the critical nature of team availability, we will adhere to our established meeting schedule while remaining flexible to accommodate individual needs. This will ensure that all members can contribute effectively, regardless of personal scheduling constraints. If availability changes for any team member, we will adjust meeting times as needed. We are also committed to cross-training, where each team member has a solid understanding of the project as a whole, so that tasks can be shifted seamlessly if someone becomes unavailable. To minimize the risk of mismanagement or overlooked tasks, especially given the increased workload this sprint, our team will communicate more frequently and clearly. By maintaining regular updates and discussions, we aim to keep all members on the same page and prevent any tasks from falling through the cracks. We will also regularly reference our Gantt chart, using it as a tool to monitor progress and identify any areas that may need extra focus as we move forward.

5.3 Risk Monitoring

To ensure our risk management plan remains effective throughout the project, we will continuously monitor our progress and revisit the identified risks regularly. Each week, during team meetings, we will conduct a risk review, where every team member will have the opportunity to report any new or emerging risks they've identified, along with any concerns they foresee in upcoming phases. This approach will allow us to address potential issues early, increasing our ability to respond quickly and implement efficient solutions. A key part of our monitoring strategy involves fostering an environment where each team member understands not only their own responsibilities but also has an awareness of others' tasks. This shared understanding will allow for flexible task management. If one team member encounters an issue or is unable to complete an assignment in time, we can reassign the task to another member who has the knowledge and capacity to step in, ensuring that deadlines are met without compromising quality. However, we view this as a contingency measure and encourage all members to contribute equally to maintain balance in our workload distribution. Another essential component of our risk monitoring is cross-referencing our progress with the Gantt chart. This will help us keep a real-time view of our progress and quickly identify any areas where adjustments may be needed. Additionally, to prevent scope creep, we will

regularly review the project's feature set against the defined requirements. Each week, we will assess whether our focus remains on core functionalities, checking that any proposed additions are noted as potential future features, to be considered only once foundational components are complete. By keeping scope in check, we can dedicate our efforts to delivering a high-quality game that meets essential requirements.