**Project Overview:**

**The purpose of this report is to provide the status of all tasks throughout the project lifecycle. The report includes the following:**

* **Project Overview**
* **Project Outcomes throughout the project lifecycle**
* **Challenges and Issues encountered throughout the project lifecycle**
* **Ongoing Risks throughout the project**
* **Milestone II and III Key Accomplishments throughout the project lifecycle**
* **Project key deliverables associated with each task assigned**
* **Status updates throughout the project**

**The start date for milestone two started on February 24, 2024. The first task was the initial kickoff meeting to brainstorm and discuss tasks which will need to be accomplished for the NetLogo prototype deliverable.**

**Outcome I Milestone II:**

**Researched Scholarly and academic literature reviews relating to project**

**Reviewed several articles and case studies relating to the project**

* **Conducted a data analysis associated with vulnerabilities which could be useful to the project**

**Outcome II Milestone II**

**A member on the team conducted research to develop a survey on the types of software organizations would implement in their environment.**

* **This research led to the development of a survey to be used for data analysis associated with the project.**
* **The data from the survey’s was used to perform analysis of the project. The type data used along with the variables was helpful in using different scenarios in modeling.** 
  + **The data captured was used for the NetLogo modeler which was considered a milestone achievement**

**Outcome I Milestone III:**

**Reviewed several error messages in code based upon attributes for NetLogo**

* **Conducted a thorough review of code, had to rollback instance in order for the data model to work**

**Outcome II Milestone III:**

**Milestone III encountered scope creep throughout the last phase of the project due to the following reasons:**

* **Due to inclement weather**
* **Availability of personnel**
* **Learning curve for prototype to be delivered as the final project**
* **Understanding key objectives and requirements for milestone III**
  + **Conducted several meetings to obtain status updates to discuss challenges and risks to the project**
  + **The meetings provided valuable insight on which tasks will require extensive research in order to complete the work required before the upcoming deadline**
  + **The research conducted provided value to ensure the success of both the prototype and graduate research paper for the final deliverable**

**Project Issues and Challenges: Milestone II:**

**Challenge: Availability of project personnel (work, personnel issues, test environment, etc.**

* **Solution: Team was able to meet outside of meeting to discuss tasks and milestone updates**
* **Challenge: Understanding the data elements which would need to be fed into the NetLogo application**
* **Solution: Team was able to discuss different data types, data elements and variables to feed into the NetLogo Model**
* **Challenges: Performance, optimization, speed and latency issues due to internet service provider**
* **Solution: One member on the team was able to connect internet by other resources available**
* **Challenges: Training on how to program of the use of the SCALA application**
* **Solution: One member of the team was able to successfully learn the SCALA application to use for the NetLogo Model. The team will also use existing NetLogo models from the NetLogo Library or other outside sources.**
* **Challenges: There are not enough survey respondents to distribute survey questions to.**
* **Solution: There will be presentation and survey conducted at DEFCON II. The meeting will generate enough feedback from respondents to answer survey questions. The surveys will provide feedback relating to the team’s project.**
* **Challenge: Data analysis will be dependent based upon the number of respondents surveyed**
* **Solution: Will need to tailor survey questions to present to respondents throughout private and industrial sectors. Survey will be opened until the end of the Milestone II project.**
* **Challenges: Brainstorming on how to put together the project outline**
* **Solution: Will work together as a team to provide inputs and help build the project outline**
* **Challenges: Understanding key elements to the Graduate Paper for final deliverable**
* **Solution: Reworking key elements to the Graduate Paper to present as a final deliverable for the project**

**Project Issues and Challenges: Milestone III:**

**Challenge: Availability of project personnel (work, personnel issues, test environment, etc.**

* **Solution: Team was able to meet outside of meeting to discuss tasks and milestone updates**
* **Challenge: Understanding the data elements which would need to be fed into the NetLogo application**
* **Solution: Team was able to discuss different data types, data elements and variables to feed into the NetLogo Model**
* **Challenges: Brainstorming on how to put together the project outline**
* **Solution: Will work together as a team to provide inputs and help build the project outline**
* **Challenges: Understanding key elements to the Graduate Paper for final deliverable**
* **Solution: Reworking key elements to the Graduate Paper to present as a final deliverable for the project**
* **Challenges: Understanding how to add GIS extension to prototype**
  + **Caused degradation of the visualization to NetLogo model**
* **Challenges: Making changes to global settings the configuration environment caused erroneous test results**
* **Solution: Will continue to streamline and work on process improvement for the environmental display. May need to a rollback previous display settings in the global environment**
* **Challenge: Providing input for all key deliverable from all members of the team as a final deliverable for the project. This includes the Graduate Research Paper**
* **Solution: All members of the team will need to do their fair share to ensure all key deliverables are met for the final project.**

**Ongoing Risks Milestone II and Milestone III:**

* **Project Scope Creep: Some assigned tasks currently have been moved to the left**
  + **Due to members on the team having other personal commitments, (.i.e., family issues, personal issues, place of employment), etc.** 
    - **Update to Milestone III: On going issues continue to move project to the left (personal commitments, place of employment, family issues, etc.)**
* **NetLogo Data Modeling Diagram will need to be developed (no status update)**
* **Visualization and display of data for use in the Environmental Setup will need to be developed (completed 3/9/2025).**
* **Time and availability of personnel conducting testing for the deliverable**
* **Environmental factors which affected the project.**
  + **On March 4, 2025, a blizzard affected the Nebraska regional area**
    - **This weather event produced widespread power outages**
    - **April 17, severe weather event which produced several tornadoes and damaging winds in the local area.**
    - **April 22, a severe weather event which produced baseball size hail, damaging winds and tornadoes in the local area. Several power outages were reported in the local and regional area.**
    - **April 28, severe weather outbreak in the local area producing baseball size hail, damaging winds and tornadoes. Several power outages were reported in the local and regional area. Team meeting was moved to virtual.**

**Milestone II Key Accomplishments:**

* **Researched Case Congressional Report for JBS Foods**
* **Researched Case Study for CrowdStrike**
* **Obtained Report CrowdStrike**
* **Obtained Congressional Report for CrowdStrike**
* **Obtained Common Vulnerabilities Enumerations(CVE) for CrowdStrike**
* **Received several responses and feedback based upon survey conducted from private and public sectors**
* **The types of data and variables used generated different scenarios for the NetLogo model**
* **Completed Prioritization Report**
* **Ninety-Eight percent of the tasks were completed for Milestone II**

**Milestone III Key Accomplishments:**

* **Prioritization Report Completed**
* **Obtained two additional surveys results for data analysis to the project**
* **Completion of Graduate Paper for Milestone III**
* **Completion of Prototype as a final deliverable for Milestone III**

**The start date for milestone two started on February 24, 2024. The first task was the initial kickoff meeting. The purpose of the meeting was to brainstorm and discuss tasks which will need to be accomplished for NetLogo prototype deliverable.**

**The final deliverable will be the presentation of the capstone along with the demonstration of the prototype NetLogo prototype. The final presentation for the project will be conducted on May 12, 2025 at 17:00 pm.**

**Project Key Deliverables:**

**Project key deliverables associated with each task assigned and status updates:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name:** | **Description** | **Start Date:** | **End Date:** | **Status:** |
| **Cummings/Flood/Gilbert/Thompson** | **Kick-Off meeting to discuss requirements and tasks for the project** | **02/24/2025** | **2/24/2025** | **Completed** |
| **Sheryl Cummings** | **Uploaded CrowdStrike Case Study Report** | **2/24/2025** | **2/24/2025** | **Completed** |
| **Sheryl Cummings** | **Uploaded CrowdStrike Incident Root Cause Analysis PDF** | **2/24/2025** | **2/24/2025** | **Completed** |
| **Sheryl Cummings** | **Uploaded CrowdStrike Report** | **2/24/2025** | **2/24/2025** | **Completed** |
| **Sheryl Cummings** | **Uploaded both FTC and DOJ 2023 Merger Guidelines** | **2/24/2025** | **2/24/2025** | **Completed** |
| **Sheryl Cummings** | **Working on Milestone II Report** | **2/24/2025** | **4/1/2025** | **Completed** |
| **Sheryl Cummings** | **Working on Milestone II Risk Management Scorecard** | **2/24/2025** | **3/9/2025** | **Completed** |
| **Sheryl Cummings** | **Added Sources to Milestone II** | **2/24/2025** | **2/24/2025** | **Completed** |
| **Sheryl Cummings** | **Inputting tasks assigned to each team member for Milestone II report** | **2/26/2025** | **3/1/2025** | **Completed** |
| **Ryan Thompson** | **Upload Initial Qualtrics Survey for Milestone II** | **2/24/2025** | **3/6/2025** | **Completed** |
| **Sheryl Cummings** | **Reviewed Initial Survey Questions/Tweaked Questions** | **3/6/2025** | **3/6/2025** | **Completed** |
| **Sheryl Cummings** | **Uploaded JBS Ransomware Case Study Report** | **2/28/2025** | **2/28/2025** | **Completed** |
| **Ryan Thompson** | **Milestone II Research Paper Outline** | **3/24/2025** | **4/5/2025** | **Completed** |
| **Ryan Thompson** | **Milestone II Meetup at DEFCON402** | **3/12/2025** | **3/12/2025** | **Completed** |
| **Ryan Thompson** | **Milestone II Performance Metrics Defined (Draft)** | **3/1/2025** | **3/9/2025** | **Completed** |
| **Connor Flood** | **Milestone II Visual/Display NetLogo** | **3/1/2025** | **3/9/2025** | **Completed** |
| **Connor Flood** | **Milestone II Environment Setup** | **3/3/2025** | **3/9/2025** | **Completed** |
| **Connor Flood** | **Milestone II Test Environment for Issues (agent simulation, agent behaviors and agent variables)** | **3/1/2025** | **3/9/2025** | **Completed** |
| **Connor Flood** | **Milestone II Define Final Environmental Variables** | **3/1/2025** | **3/9/2025** | **Completed** |
| **Brian Gilbert/Connor Flood** | **Learn Scala to Program NetLogo Environment** | **2/17/2025** | **3/10/2025** | **Completed** |
| **Brian Gilbert/Connor Flood** | **Milestone II Diagram Generation** | **2/17/2025** | **3/10/2025** | **Completed** |
| **Brian Gilbert** | **Document Product Increments for Milestone II** | **2/17/2025** |  | **Incomplete** |
| **Connor Flood** | **Milestone II Summary of Outcomes** | **3/17/2025** | **4/1/2025** | **Completed** |
| **Ryan Thompson/Sheryl Cummings** | **Milestone II Analyze Qualtrics Code Survey Data** | **3/2/2025** | **3/6/2025** | **Completed** |
| **Sheryl Cummings/Ryan Thompson/Connor Flood** | **Milestone II Team Meeting/Discussions included status updates to the project** | **3/3/2025** | **3/3/2025** | **Completed** |
| **Sheryl Cummings** | **Updated Risks Table for Milestone II** | **3/5/2025** | **3/9/2025** | **Completed** |
| **Ryan Thompson** | **Publish Survey Results for Milestone II** | **3/5/2025** | **3/6/2025** | **Completed** |
| **Cummings/Thompson/Flood** | **Milestone II Team Meeting/Discussions included status updates to the project** | **3/10/2025** | **3/10/2025** | **Completed** |
| **Connor Flood** | **Milestone II Create NetLogo Environment for JBS** | **3/3/2025** | **3/9/2025** | **Completed** |
| **Connor Flood** | **Milestone II NetLogo Food Security Metrics** | **3/10/2025** | **3/17/2025** | **Completed** |
| **Connor Flood** | **Milestone II Test Environment and Enhance Useability** | **3/10/2025** | **3/17/2025** | **Completed** |
| **Connor Flood** | **Milestone II Enhance Recovery Rate in NetLogo Model** | **3/10/2025** | **3/17/2025** | **Completed** |
| **Cummings/Thompson/Flood** | **Milestone II Team Meeting/Discussions included status updates to the project** | **3/24/2025** | **3/24/2025** | **Completed** |
| **Ryan Thompson** | **Milestone II Presentation** | **4/6/2025** | **4/6/2025** | **Completed** |
| **Cummings/Thompson/Flood/Brian Gilbert** | **Milestone II Team Meeting/Discussions included status updates to the project** | **3/31/2025** | **3/31/2025** | **Completed** |
| **Connor Flood** | **Milestone II Initial Prototype Deliverable Submission** | **2/17/2025** | **3/31/2025** | **Completed** |
| **No Team Meeting** | **Per instructor, focus on providing inputs for classmate’s capstone project** | **4/7/2025** | **4/7/2025** | **Completed** |
| **Sheryl Cummings** | **Milestone III assigned tasks to team members** | **4/7/2025** | **4/27/2025** | **Completed** |
| **Sheryl Cummings** | **Milestone III working on Prioritization Report** | **4/6/2025** | **4/7/2025** | **Completed** |
| **Sheryl Cummings** | **Milestone III working on the following: Abstract, Introduction, Literature Review, two case studies, problem statement, research questions, contributions made, investigative approach, implications for practice/research, challenges and conclusions/Working Bibliography/Works Cited** | **4/6/2025** | **4/27/2025** | **Completed** |
| **Cummings/Thompson/Flood/Gilbert** | **Milestone III team meeting to discuss assigned tasks for completion** | **4/14/2025** | **4/14/2025** | **Completed** |
| **Cummings/Thompson/Flood** | **Milestone III team meeting to discuss tasks and clarification for deliverable(s)** | **4/21/2025** | **4/21/2025** | **Completed** |
| **Sheryl Cummings** | **Milestone III Inputted Start/Stop Completion dates for tasks assigned to each team member working on the project** | **4/21/2025** | **4/21/2025** | **Completed** |
| **Sheryl Cummings** | **Milestone III – Re-working Sections of Graduate Paper** | **4/23/2025** | **4/27/2025** | **Completed** |
| **Connor/Gilbert** | **Milestone III – Technical Documentation** | **4/8/2025** | **5/11/2025** | **Completed** |
| **Thompson** | **Milestone III – Update Project Goals** | **4/21/2025** | **5/11/2025** | **Completed** |
| **Thompson/Flood/Gilbert** | **Milestone III – Update Methodology** | **4/28/2025** | **5/11/2025** | **Completed** |
| **Flood/Gilbert** | **Milestone III – Test Development –**  **Update Results and Findings** | **4/28/2025** | **5/11/2025** | **Completed** |
| **Flood/Gilbert** | **Milestone III – Update Code Artifact UI’s and Control Modules** | **4/8/2025** | **5/11/2025** | **Completed** |
| **Flood/Gilbert** | **Milestone III – Final Prototype Deliverable Demonstration Submission** | **4/28/2025** | **5/12/2025** | **Completed** |
| **Thompson/Flood/Gilbert** | **Milestone III – Graduate Paper Methodology/Results** | **4/21/2025** | **5/11/2025** | **Completed** |
| **Cummings/Thompson/Flood/Gilbert** | **Milestone III – Graduate Conclusion** | **4/20/2025** | **5/11/2025** | **Completed** |
| **Cummings/Thompson/Flood/Gilbert** | **Milestone III – Final Presentation** | **4/21/2025** | **5/12/2025** | **Completed** |
| **Connor Flood** | **Milestone III- Food Production NetLogo Prototype** | **4/28/2025** | **5/12/2025** | **Completed** |
| **Connor Flood** | **Milestone III Food Production Model Data Process** | **4/21/2025** | **5/11/2025** | **Completed** |
| **Cummings/Thompson/Flood/Gilbert** | **Milestone III Status Update Meeting** | **4/28/2025** | **4/28/2025** | **Completed** |

**Summary:**

**This progress report covers our team's accomplishments for both Milestone II and Milestone III. Our key accomplishments included conducting several research literatures to help understand the information we would need to accomplish our project.**

**Milestone II:**

**For Milestone II, a key accomplishment for the team included developing a survey to use to build out metrics for the NetLogo model. Conducting the survey helped the team understand which variables we could use for our NetLogo data model.**

**We also encountered several issues and challenges associated with our project. For example, some of the issues we encountered included availability of personnel, loss of power and understanding the data to generate different scenarios for data modeling.**

**The team was able to overcome these obstacles by conducting meetings to discuss ongoing issues and assigned tasks for the milestone II deliverable.**

**Milestone III:**

**For Milestone III, our team focused on completing the necessary steps in the last phase of the project. These steps will include deliverables such as testing and validation, user instruction documentation and technical documentation. All other key deliverables, such as the graduate research paper and other documentation will be included in the overall package as the final project deliverables.**

**During the last several weeks, our team encountered several issues and challenges in completing the final phase of the project. These issues and challenges include availability of personnel, inclement weather to include loss of power, learning curves related to the project and finalizing the research paper. The team was able to overcome these obstacles by conducting meetings to discuss ongoing issues and resolutions to assigned tasks for the milestone III deliverable.**