To create a very simple prototype focused on implementing LLMs to develop situational awareness and offer courses of action for sustainment and maintenance, we can significantly reduce the scope. This prototype would focus on the core functionalities needed to demonstrate the system's potential, excluding additional features like CCM and complex integrations.

**Simplified Roadmap and Estimate**

| **Phase** | **Tasks** | **Objective** | **Estimated Hours** |
| --- | --- | --- | --- |
| **Phase 1: Minimal Design and Planning** | | | |
| Requirements Gathering | Define minimal requirements for LLM integration and situational awareness | Establish clear goals for the prototype | 40 |
| Design Specification | Develop a simplified design for LLM integration and basic UI | Provide a basic blueprint for development | 40 |
| **Phase 1 Subtotal** | | | **80** |
| **Phase 2: Basic Prototype Development** | | | |
| LLM Integration | Implement LLMs to analyze data and offer courses of action | Core functionality to demonstrate situational awareness | 120 |
| Basic UI/UX Development | Develop a simple UI for displaying LLM outputs and user interactions | Provide a basic interface for interacting with LLMs | 80 |
| **Phase 2 Subtotal** | | | **200** |
| **Phase 3: Basic Testing and Iteration** | | | |
| Basic Unit Testing | Conduct minimal testing to ensure LLM integration works as expected | Ensure basic functionality is reliable | 40 |
| User Feedback and Iteration | Deploy prototype to gather initial feedback and make simple adjustments | Refine based on user input | 40 |
| **Phase 3 Subtotal** | | | **80** |
| **Phase 4: Finalization and Documentation** | | | |
| Final Adjustments | Make final tweaks based on initial testing and feedback | Finalize the minimal prototype | 40 |
| Basic Documentation | Provide minimal documentation for the prototype's use | Ensure the prototype can be understood and used | 20 |
| **Phase 4 Subtotal** | | | **60** |
| **Total** | | | **420** |

**Summary**

* **Total Estimated Engineering Hours**: **420 hours**
* **Estimated Cost**: Assuming an average engineering rate of $150/hour, the total estimated cost would be **$63,000**.

**Scope Description**

This simplified prototype will focus on:

1. **LLM Integration**: Implement a basic integration where the LLM processes relevant data and provides situational awareness by analyzing maintenance and sustainment data.
2. **Course of Action Recommendations**: The LLM will offer basic recommendations or courses of action based on the situational analysis.
3. **Basic UI**: A simple user interface will be developed to display the LLM’s outputs and allow basic interaction, such as selecting scenarios or viewing recommendations.
4. **Minimal Testing**: Basic testing to ensure that the LLM integration and UI are functional and reliable.
5. **Initial Feedback and Refinement**: Gather feedback from key stakeholders to make any necessary adjustments.

This reduced scope will allow you to demonstrate the core capabilities of the system to the Navy, focusing on how LLMs can enhance situational awareness and decision-making in sustainment and maintenance without the additional complexity of a full-scale implementation.