**2. Sprints Overview for Coronary Artery Disease Minor Project**

**2.1 Sprint 1**

**2.1.1 Sprint Goal with User Stories of Sprint 1**

* **Sprint Goal**: Establish a foundational understanding of coronary artery disease, covering its definition, causes, symptoms, and risk factors.
* **User Stories**:
  + **User Story 1**: As a student, I want to understand what coronary artery disease (CAD) is to introduce it in my project.
  + **User Story 2**: As a researcher, I need to gather data on the symptoms and risk factors of CAD to build context for the project.
  + **User Story 3**: As a writer, I want to draft an initial outline for the project report, organizing sections for research and writing.

**2.1.2 Functional Document**

* **Objective**: To define CAD, explain its significance, and identify common causes, symptoms, and risk factors.
* **Research Topics**:
  + **CAD Definition**: CAD is a condition characterized by narrowing or blockage of the coronary arteries due to plaque buildup, which can lead to heart attacks and other heart-related issues.
  + **Causes**: Causes include genetic predisposition, lifestyle factors (such as poor diet, lack of exercise, smoking), and underlying conditions like high blood pressure and diabetes.
  + **Symptoms**: Chest pain (angina), shortness of breath, fatigue, and in severe cases, heart attack.
  + **Risk Factors**: High cholesterol, obesity, smoking, diabetes, family history of heart disease, age, and stress.

**2.1.3 Architecture Document**

* **Project Outline**:
  + **Chapter 1**: Introduction to Coronary Artery Disease – overview of CAD, its impact, and its prevalence globally.
  + **Chapter 2**: Causes of CAD – genetic vs. lifestyle factors, including detailed explanations.
  + **Chapter 3**: Symptoms and Risk Factors – description of symptoms and detailed risk factor analysis.
  + **References Section**: List of sources, including medical journals, reputable health websites (e.g., Mayo Clinic, CDC), and textbooks.

**2.1.4 Functional Test Cases**

* **Test Case 1**: Verify that all definitions and descriptions of CAD are accurate and consistent with medical sources.
* **Test Case 2**: Check that risk factor data is supported by recent research or health statistics.
* **Test Case 3**: Ensure that the project outline includes all major sections and follows a logical structure for research.

**2.1.5 Daily Call Progress**

* **Day 1**: Define project scope, objectives, and identify initial sources.
* **Day 2**: Research CAD definitions and its significance in healthcare.
* **Day 3**: Collect and analyze information on CAD causes and risk factors.
* **Day 4**: Organize findings into sections and refine the project outline.
* **Day 5**: Review and finalize Sprint 1 deliverables.

**2.1.6 Committed vs. Completed User Stories**

* **Committed**: 3 user stories focused on defining CAD, identifying symptoms, causes, and outlining the project.
* **Completed**: All 3 user stories completed; foundational research is ready, and the project outline is drafted.

**2.1.7 Sprint Retrospective**

* **Positives**: Strong foundational understanding of CAD was achieved, and the project outline is comprehensive.
* **Challenges**: Limited time to explore all risk factors in depth.
* **Improvements**: Allocate more time in future sprints to explore complex areas.

**2.2 Sprint 2**

**2.2.1 Sprint Goal with User Stories of Sprint 2**

* **Sprint Goal**: Expand research on diagnostic methods and treatment options for coronary artery disease.
* **User Stories**:
  + **User Story 1**: As a student, I need to understand the diagnostic tools for CAD to include an informed description.
  + **User Story 2**: As a researcher, I want to compile a list of treatment options to complete the information on management of CAD.
  + **User Story 3**: As a writer, I want to draft the diagnostics and treatment sections for the project report.

**2.2.2 Functional Document**

* **Objective**: To provide a comprehensive view of how CAD is diagnosed and treated.
* **Research Topics**:
  + **Diagnostic Tools**: Electrocardiogram (ECG), Stress Testing, Echocardiography, Coronary Angiography, and Blood Tests.
  + **Treatment Options**: Medications (e.g., statins, aspirin), lifestyle changes (e.g., diet, exercise), surgical procedures (e.g., angioplasty, coronary artery bypass grafting).

**2.2.3 Architecture Document**

* **Updated Project Layout**:
  + **Chapter 4**: Diagnostic Methods – detailed descriptions of each method, how they work, and when they are used.
  + **Chapter 5**: Treatment Options – explanations of medication, lifestyle adjustments, and surgical options, including when each is recommended.

**2.2.4 Functional Test Cases**

* **Test Case 1**: Ensure each diagnostic method is accurately described and supported by credible sources.
* **Test Case 2**: Verify treatment descriptions align with current medical practices and guidelines.
* **Test Case 3**: Ensure drafted sections flow well and build on information from Sprint 1.

**2.2.5 Daily Call Progress**

* **Day 1**: Research CAD diagnostic methods and gather supporting resources.
* **Day 2-3**: Collect data on treatment options.
* **Day 4**: Draft sections for diagnostics and treatments.
* **Day 5**: Review drafts, check for cohesion with previous sections.

**2.2.6 Committed vs. Completed User Stories**

* **Committed**: 3 user stories on diagnostic and treatment research.
* **Completed**: All 3 user stories completed, with draft sections on diagnostics and treatments.

**2.2.7 Sprint Retrospective**

* **Positives**: Diagnostic and treatment sections were completed with thorough research.
* **Challenges**: Limited time to verify all treatment data; needed more specialized sources.
* **Improvements**: Consider consulting additional textbooks or expert articles to verify data.

**2.3 Sprint 3**

**2.3.1 Sprint Goal with User Stories of Sprint 3**

* **Sprint Goal**: Finalize the project by including prevention strategies for CAD and preparing the final report.
* **User Stories**:
  + **User Story 1**: As a student, I want to learn preventive measures for CAD to complete the research.
  + **User Story 2**: As a reviewer, I need to verify all content for accuracy, coherence, and relevance.
  + **User Story 3**: As a writer, I want to summarize findings in a conclusion and prepare the final draft.

**2.3.2 Functional Document**

* **Objective**: Conclude with prevention strategies for CAD and prepare the report for submission.
* **Research Topics**:
  + **Prevention Strategies**: Healthy diet (reducing saturated fats, sugar, and salt), regular exercise, quitting smoking, managing stress, and routine health screenings.

**2.3.3 Architecture Document**

* **Finalized Document Layout**:
  + **Chapter 6**: Prevention Strategies – dietary guidelines, exercise recommendations, and preventive health measures.
  + **Conclusion**: Summary of key findings, importance of lifestyle changes, and the broader impact of CAD prevention.

**2.3.4 Functional Test Cases**

* **Test Case 1**: Validate the accuracy and relevance of prevention strategies.
* **Test Case 2**: Ensure the entire report flows logically and each section connects cohesively.
* **Test Case 3**: Review formatting, grammar, and presentation for a polished final submission.

**2.3.5 Daily Call Progress**

* **Day 1**: Research and document prevention strategies.
* **Day 2**: Add prevention content to the report.
* **Day 3-4**: Conduct a thorough review of all sections.
* **Day 5**: Finalize and prepare the report for submission.

**2.3.6 Committed vs. Completed User Stories**

* **Committed**: 3 user stories for prevention research, report review, and conclusion.
* **Completed**: All 3 user stories completed; final report reviewed and ready.

**2.3.7 Sprint Retrospective**

* **Positives**: Project completed with a well-rounded understanding of CAD, including causes, diagnostics, treatments, and prevention.
* **Challenges**: Tight schedule for final edits.
* **Improvements**: Allocate an extra day for final review and adjustments in future projects.