Conrad Prisby

Engineering Journal

Date: September 5, 2023

Objective: Commencement of Project and Requirement Identification

Summary:

Today marked the project's inception, where discussions centered on grasping the project's scope and outlining requirements. The team brainstormed potential features, agreeing on the Digilent Nexys A7 development board for the initial phase before porting to the TVS.

Date: September 7, 2023

Objective: Material Outlining and Work Division

Summary:

The focus was on identifying crucial project materials and structuring workload division. Key documents, resources, and research materials were outlined, and responsibilities were assigned, ensuring a clear understanding among team members. This set the foundation for an organized and collaborative approach.

Date: September 12, 2023

Objective: Architectural Definition and Technical Specifications

Summary:

Building on prior discussions, the meeting delved into technical aspects, defining architecture with a MicroBlaze soft-core CPU on Artix 7 FPGA. Vivado version was decided, and potential challenges were addressed. The team identified strategies to mitigate challenges and secured necessary materials.

Date: September 14, 2023

Objective: Vivado Installation and Debugging for Team

Summary:

The meeting focused on ensuring successful installation and debugging of Vivado for all team members. A step-by-step installation walkthrough and troubleshooting session were conducted. By the end, all team members had a functional Vivado setup, paving the way for efficient coding sessions.

Date: September 19, 2023

Objective: Progress Update and Research Exchange

Summary:

The meeting centered on coding progress and addressing Vivado issues. Insights from individual research on FPGA, MicroBlaze, etc., were shared, refining the team's approach and fostering a cohesive understanding.

Date: September 21, 2023

Objective: MicroBlaze Tutorial and Research Deep Dive

Summary:

Today's focus was on a comprehensive exploration of MicroBlaze through tutorials and research. The team engaged in hands-on sessions, discussing key concepts and potential challenges. This laid a robust foundation for the upcoming coding phase.

Date: September 26, 2023

Objective: Extended MicroBlaze Tutorial and Research Sharing

Summary:

Building on the previous meeting, today's session continued the exploration of MicroBlaze, delving deeper into specific features and functionalities. Coding efforts were shared and discussed collaboratively, addressing challenges and enhancing the team's understanding.

Date: September 28, 2023

Objective: IP Implementation Discussion - GPIO, UArt, QSPI, etc.

Summary:

The team discussed the implementation details of various IPs crucial for the project, such as GPIO, UART, QSPI. Focus was on understanding configurations, integration, and potential interdependencies. Collaborative coding efforts were initiated, laying the foundation for broader functionality.

Date: October 3, 2023

Objective: Planning for Digilent Nexys A7 Implementation

Summary:

With the groundwork laid, the focus shifted to transitioning to the Digilent Nexys A7 development board. A detailed plan was outlined, considering hardware compatibility and testing procedures for validation.

Date: October 5, 2023

Objective: HTML Design and Functionality Discussion

Summary:

The meeting delved into the design and functionality of HTML components. Detailed discussions on structure, layout, and user interface considerations were conducted, exploring potential design patterns and interactive elements.

Individual Work Entry - October 8, 2023

Objective: HTML Website Structure and Layout Design

Summary:

On this date, I dedicated time to crafting the structure and layout of the HTML components for our project's website. The focus was on creating an intuitive and visually appealing interface. I explored potential design patterns, considering user-friendly elements for a seamless experience.

Date: October 10, 2023

Objective: Continued HTML Design and Functionality Discussion

Summary:

Insights on creating responsive and visually appealing web interfaces were shared. Considerations for telemetry visualization, command input forms, and overall responsiveness were discussed. A roadmap for collaborative development was established.

Individual Work Entry - October 15, 2023

Objective: HTML Website Responsive Design Implementation

Summary:

During this session, my attention shifted towards implementing responsive design elements for the HTML website. I worked on ensuring the website's adaptability to various screen sizes and devices. Strategies for optimal content display and navigation were explored, contributing to a more user-centric design.

Date: October 24, 2023

Objective: 1PPS Discussion and Initiation of Implementation

Summary:

The meeting centered on implementing the 1 Pulse Per Second (1PPS) functionality. Discussions revolved around defining requirements and specifications, emphasizing precision and synchronization for time-sensitive data.

Date: October 26, 2023

Objective: Implementation of 1PPS

Summary:

The team initiated the coding phase for the 1PPS feature. Collaborative efforts were directed at integrating this functionality seamlessly. Challenges and potential optimizations were explored.

Date: October 31, 2023

Objective: 1PPS Debugging and Constraint File Issues

Summary:

The focus was on debugging the 1PPS implementation and addressing constraint file challenges. The team collaboratively troubleshooted issues, ensuring the timekeeping functionality met precision and synchronization standards.

Date: November 2, 2023

Objective: 1PPS Debugging and Constraint File Issues Continued

Summary:

The session sustained the focus on debugging the 1PPS implementation and addressing ongoing constraint file challenges. Collaborative problem-solving continued, refining code configurations and optimizing file setups.

Date: November 7, 2023

Objective: SDD, SRS, and Test Plan Refinement

Summary:

The meeting centered on updating and refining the Software Design Document (SDD), Software Requirement Specification (SRS), and Test Plan. The team incorporated diagrams for clarity, ensuring accurate and comprehensive documentation.

Date: November 9, 2023

Objective: SDD, SRS, and Test Plan Refinement Continued

Summary:

Continuing from the previous meeting, efforts sustained in updating and refining the SDD, SRS, and Test Plan. Additional diagrams were included, providing a detailed representation of software structure, information flow, and system interactions.

Individual Work Entry - November 26, 2023

Objective: Review and Optimization of HTML Code

Summary:

During this session, I conducted a thorough review of the HTML code, focusing on optimization and efficiency. Discussions included refining code snippets, addressing potential performance bottlenecks, and ensuring adherence to best practices. The aim was to deliver a streamlined and well-optimized HTML structure for the project's website.