**Independent Study Proposal:**

**Student learning objectives:**

* Gain hands-on experience in software-hardware integration.
* Understand the process of transitioning from traditional methods to digital solutions in event publicity.
* Develop skills in designing and implementing interactive digital displays.
* Learn about sustainable practices and their implementation in a campus setting.

**Resources to be used:**

* Idea lab facilities for designing and constructing the display panel frame.
* Access to the SkidSync database for real-time event data.
* Hardware procurement channels for CPU and display components.
* Software development tools for creating the user interface and integrating with SkidSync.

**Timeline and interaction with faculty sponsor (include proposed meeting schedule with faculty):**

While the instructor determines how much time they will spend in advising the student on their independent work, it is recommended that faculty not meet more than once a week with an independent study student and not less than once every two weeks.

Bi/weekly meetings with Professor David Read to discuss progress, troubleshoot issues, and receive guidance.

The project will span the entire semester, with incremental goals set for each bi-weekly meeting.

**Timeline:**

**Weeks 1-3: Project Planning and Design ( I will start this already during Winter Break)**

Develop a comprehensive plan, including technical specifications for the digital display panel and initial software design.

Coordinate with the Idea Lab for resources and set up access to the SkidSync database.

**Weeks 4-6: Hardware Procurement and Initial Software Development**

Begin procuring the necessary components for the CPU and display panel.

Simultaneously, initiate software development focusing on establishing a connection with SkidSync and basic UI layout.

**Weeks 7-10: Advanced Software Development**

Continue in-depth development of the software, integrating advanced features like real-time event updates, push notifications, and QR code functionality.

Start testing the software in a controlled environment to ensure functionality and reliability.

**Weeks 11-13: Frame Construction and Initial Integration - Getting the prototype ready!**

Construct the frame for the display panel in the Idea Lab.

Begin integrating the software with the basic hardware setup to test compatibility and make necessary adjustments.

**Expected end result (e.g. major paper, production, research etc.):**

* Creation of a fully functional prototype of SkidScreen, an interactive digital display panel for event publicity.
* This includes hardware assembly, software development, and successful integration with the SkidSync system.
* The final deliverable will be a demonstration of the system's capabilities, including real-time event updates, push notifications, QR code functionality, and school map integration.

**Course(s) completed in preparation for this project:**

* CS-106, CS-209, CS-226