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