

Proposal Narrative. Please Answer the following questions:

1. *Specifically indicate the reason(s) for which you are requesting funding including the specific date(s) and location(s) involving your research or creative project.*

We are requesting funding for three main reasons:

- a) To improve room management for the Computing & Information Systems (CIS) Department rooms by offering a platform for students to reserve study and project spaces easily and check real-time availability.
 - The displays purchased and programmed will increase information availability. Allowing students to know when they can use these rooms.
- b) To fulfill the requirement for our senior capstone project in the CIS Department.
- c) To Gain experience making physical interfaces.

Our project is to be designed, completed, and in use at the Dupree Science Pavillion no later than May 2025. After completion, this project will remain in use in the Dupre Science Pavillion for the student body. We will also present our project in late April at the Saint Vincent College Annual Academic Conference, which is hosted in the Dupree Science Pavillion.

2. *Describe the purpose of the project for which you are requesting funding.*

Our project aims to provide a room reservation system for the CIS Department rooms: W210, W212, and the CIS conference room. The need for a scheduling system has arisen from the joint use of these rooms by CIS students and, in the case of W210, SVC Esports. Both Seniors, in Senior Project, and Juniors, in Software Engineering, need to use these spaces and rooms, but there is no way to know when the rooms are available. Therefore, the CIS department needs a method to effectively handle schedule conflicts, assure students of reservations, and display schedules.

3. *Describe the method for your project including tasks involved and timeline for beginning and completing your research or creative project. Include plans for presenting the results of your project.*

This project will be completed over the rest of the academic year. By the end of the fall semester, project architecture and basic prototypes should be in place. Through the winter break, the team will begin implementing the database backend and API connections. Upon returning to campus in January, we will assemble our hardware components and prepare them for installation. Through the spring semester, we will continue connecting the pieces together. At the end of the spring semester, as part of the project rubrics laid out by the CIS Department, the product will be presented as part of the Senior Project showcase and presented at the Academic Conference.

Tasks involved:

- Network a public facing website to an internal server
- Network server to database
- Building external displays to show information in room windows
- Linking displays to server to display real-time information updates
- Integrating all components to build a complete room-reservation system

4. *How does this research or creative project fit with your current academic program of study or with your academic interest and/or how will the project help you to achieve future goals?*

Given that all group members are computer science or cybersecurity members, the project will require extensive programming understanding to design the system to perform the various tasks above. Additionally, good security principles and standards need to be followed to handle personally identifiable data (PII) correctly and adequately. Completion of this project will provide group members with a better understanding of group project management in the Information Technology field along with providing them with substantial evidence to support their understanding of their field on a resume. Lastly, this project will allow all students to further their understanding of their major of study when examined from the professional development viewpoint.

Total Estimated Budget: Financial support will fund the following area.

a) Supplies:

We do not foresee incurring any costs for consumable materials.

b) Equipment:

3 x Display Unit (3 x \$90.57 each = \$271.71 *subtotal*):

- 7" Screen, \$48 ea.
- Raspberry Pi Zero 2 W, \$21.81 ea.
- 32 GB SD Card, \$6.10 ea.
- Short Mini HDMI Cable, \$9 ea. (on sale, \$4.50)
- Power supply (micro-USB), \$5.66 ea.

\$271.71 *subtotal* + \$16 est. Tax = **\$287.71 total**

c) Printing and duplicating: This category includes actual costs not provided by the College.

No printing and/or duplicating needed.

d) Travel:

No travel required

e) Lodging: List the anticipated reimbursement associated with hotel/apartment expenses related to the experience.

No lodging needed.

f) Other:

No miscellaneous expenses.