SENIOR DESIGN FUNDING PROPOSAL

Brett Harrison

Madison Rubia

Paras Zaveri

Professor R. Danielson

Attn: Shane Wibeto

October 21, 2016

On-Site Hoist Lift Manager

Team Information

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| Member Name | Discipline | Email |
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| Team Advisor | | |
| R. Danielson | COEN | rdanielson@scu.edu |

\*Primary Student Contact

Project Description

Our project addresses an unsolved efficiency issue in regards to construction site hoist lifts. Currently, the main problems involve tracking and displaying the position of lift cars, and scheduling workers and tasks around these lifts. Our solution is to provide construction teams with a desktop and mobile system that allows the workers to track the status of the hoist lift. This project has the potential to work in an industry environment, with collaboration between students and professionals. This project is the opportunity to prove our educational competence to the external industry in addition to the Santa Clara University faculty evaluating the performance of this team. We will demonstrate our knowledge through this system, with emphasis on the technological improvement it will provide to the construction field. Conforming to University Strategic Vision, this project seeks to increase the sustainability associated with construction sites by reducing the fuel needed to operate the hoist lifts for unnecessary lengths of time.

To implement this solution, our team needs a device to convert mechanical motion into a digital signal. This data then needs to be transmitted to a cloud device, where information is processed and made available to users of the system. The necessary devices are an absolute rotary encoder and network-enabled microcontroller.

Project Budget

For the physical components of this project, we ask Engineering Undergraduate Programs for a sponsorship of $1,000. Our project costs lie in the need for a rotary encoder and microcontroller, two devices deemed necessary to implement our proposed solution. We estimate the cost of a rotary encoder to be $900, therefore the remaining costs are incurred by the purchase and maintenance of a microcontroller with cellular network connectivity. This team has not sought funding from any source within or without Santa Clara University at this time, but it may request additional funding from other sources after the submission of this proposal.

Statement of Acceptance

This statement acknowledges that upon funding, the team authoring this proposal will be obligated to appear and present their project at Family Weekend in February 2017, Preview Weekend in April 2017, and the Spring Engineering Education Days in April 2017.

By signing below, team members agree to the prior statement.

Brett Harrison Date

Madison Rubia Date

Paras Zaveri Date

Advisor Approval

A signature by the project advisor confirms the team seeking funding has formulated an appropriate budget for their project.

R. Danielson Date