PROJECT PROPOSAL:

THE INNOVATIVE DESIGN FOR ACCESSIBILITY ON SAINT MARY’S UNIVERSITY CAMPUS

***MCDA 5530***

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**Executive Summary**

An accessible learning environment is important for all individuals and that includes people with different backgrounds, cultures, experiences as well as disabilities. At Saint Mary’s University, employees who work at the department of supporting student with disabilities encounter problems with accessibility on campus, under this circumstance, they may not be able to effectively assist the student with disabilities as well as have lower efficiency at work. Few solutions provided to tackle down as the problems are still existed and not yet to be solved. These solutions are done by utilizing technological supports with certain aspects to build in.

**Statement of Problem**

Based on the interview with the Acting Manager and Exam Coordinator and her colleague from Fred Smithers Center(FSC) for support to the students with disabilities on September 28, 2018, two clear definition of the problems are addressed:

* With a paper campus map provided by the school and a verbal navigation from FSC staffs are not informative enough for the people with disabilities to traverse such a large campus or any specific classroom they want to go. The vagueness of the overall campus maps cause the FSC staffs hard to assist the student with disabilities to the desire places they want to go. The inaccessible format of the navigation tool on campus gives an information and communication barrier to the FSC staff as he/she cannot aid the students with disabilities to any specific classroom.
* A typical task of the employees of FSC is to ensure adequate facilities are present within the classrooms and particularly the exam rooms of disabled students who have approached them or currently within their database of students with special needs. This is unfortunately hindered by their inability to efficiently track the courses such students are currently enrolled in since students sometimes drop or add courses during the semester and may not remember to inform the FSC office regarding that. This causes the FSC employees to check up on the course registration of each student one by one using the banner platform, which is a very time consuming and laborious task for them. The main parts of this issue are the absence of any user interface for FSC employees to instantly check-up on course registration or activities of all disabled students at once, and the lack of any live feedback of the changes made by the students so that they need not manually check every now and then.

**Motivation of the Project**

The feeling of empathy for the individuals with disabilities gives an inspiration to improve the services and facilities on campus in order to maintain an accessible learning environment and benefit the potential individuals with disabilities. By recognizing the issues of inaccessible format of campus map and inefficiency to track the status of student course registration and realizing there are no existing solutions provided by the school, a set of potential approaches of the problems are addressed to assist the employees of FSC to conquer the issues they face.

**Target User Group**

The primary users are the employees at FSC because they are the first encounters of these challenges. However, the accessible design for the solution to the problems will not only resolve the employees’ needs, but also the students with disabilities on the campus.

**Existing or Related Problems and Solutions**

a) Navigating around campus

Currently the most commonly used navigation system would be Google Maps, however it has been predominantly designed for outdoor applications for navigating public roads. In terms of indoor navigation and positioning the following kinds of technologies exist:

* Wi-Fi based triangulation is a method which works similarly to GPS but instead of satellites it uses wi-fi signals to create a positioning system indoors through an array of routers
* Microsoft has developed its own mobile app based solution where the various sensors in modern smartphones are used to build path guides for indoor use where users help each other by creating such guides(Microsoft Research, 2018)

b) Tracking course registration

**Potential Approaches to the Problem**

a) Navigating around campus

In terms of solving this problem, an accessible design of a mobile application(app) for an interactive campus map. The desirable app contains few aspects as following:

* Identifies where specific one currently is and provide directional guidance to traverse on campus with voice assisted navigation
* Inputs the desire destinations which will then output a 2D and with an enhancement of 3D output map if applicable
* Uses QR codes on all the official signs, which the student can scan through a phone app to find their location
* Builds in a search function to give turn by turn navigation option for students finding their classes

This will resolve the challenges which the employees at FSC encounter by having a thorough detail of the campus map and improving their navigational explanation to the students with disabilities to specific locations.

b) Tracking course registration

The solution to this depends largely on the system of database maintained by the university when it comes to course registration and the list of students who have identified themselves as having some form of disability. To solve this issue,

* Investigates and likely works with the department in charge or maintaining the SMU database, most likely ITSS
* Builds in a software that the FSC employees can have access to a live feed of course registration status of disabled students or for them to have a feature of a button that refreshes a table with attributes containing list of all registered disabled students, the courses they are currently enrolled in and any other relevant information. This will be done in an assumption of ability to access university database

With the new built-in software that can track the course registration for students with disabilities may aid the FSC employees to contact immediately and find out the situation of the person with disability is having and improve the efficiency and effectiveness of their works.

**Potential Interview Questions to Project Stakeholders**

* Can you introduce yourself? (What is your role/position in Fred Smithers Centre?)
* What is your duties or responsibilities in Fred Smithers Centre?
* What kind of services Fred Smithers Centre will provide to the student who with disabilities?
* While you work on to provide services to a student with disabilities do you ever facing any difficulty or challenge?
* Is there any product/equipment or a solution that you are currently using to resolve your

difficulty or challenge?

* Is there any disadvantage that those product/equipment or solution that you think it has

space to improve? In another word how do you think that product/ equipment or solution

can make your life better/easier?

* If in the future we would like to follow up with you regarding the interview or our project

will you authorize us to contact you? (If yes could you leave your contact information?)

**Conclusion**

The problems of giving general navigation on campus and tracking live feed of course registration cause the FSC employees unable to reach their aspires to help students with disabilities. In order to fulfill their needs and ensure inclusion on campus, potential approaches to these two major problems are addressed as follow:

* Thorough navigation on campus with an interactive map
* Self-service banner for employees of Fred Smithers Centre

**References**

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