A PROPOSAL FOR UPDATING THE DINNING CENTERS ENTRANCE AT SEASONS WITH STATUS ON MENU SHOWING HOW BUSY THEY ARE

By: Mitchell Wadle

1. INTRODUCTION
   1. **Purpose**

The purpose of this proposal is to add a system for showing students how busy a dining center is before using a meal swipe to get in. This system would help students determine

* 1. **Background**

Many of the dinning centers on campus work by students using a meal from their meal plan to eat. Unless you have the unlimited meal plan, all the meal plans have a finite number of meals. For most students, especially students living in the dorms which require a meal plan, this is the main source for food over the course of the semester. Running out of meals could put students in a difficult position for getting food for the rest of the semester. When the dining centers are busy, there is no way of telling how busy they are before swiping in and using one of the limited number of meals. If there isn’t seating available or the dining center is too busy for a student to eat before class or other obligations, this could result in that meal going to waste.

* 1. **Scope**

The proposal looks to update seasons dining center below Maple dormitory with a new system for showing the current number of people dining and how busy they are.

1. DISCUSSION
   1. **Approach**

In order to keep track of people entering and exiting, I propose implementing a self-swiping system much like lied rec center implemented. By putting in a self-service entrance, there will be an easy way to keep track of when students enter but also when they leave. This would allow us to monitor when the busiest times are and provide a display of current number of people dining.

This system can be implemented similarly to how lied rec center implemented their entrance system. With four terminals and a self-scanning entrance the gym can keep track of when people enter and leave the facility. Figure 1 shows the online busy status implemented by lied rec center which would be a similar implementation for the dining center. This system would be implemented both on the MyState app and online on the Iowa state website under the dining center hours and menu. Once implemented, the status of the dining center can be displayed directly on the menu that is already at the entrance of the dining center.

* 1. A screenshot of a cell phone

     Description automatically generated**Result**

This would result in students being able to see how busy Seasons is before using one of their limited meal swipes.

* 1. **Statement of work**

To properly implement everything in this proposal, the following tasks need to be finished:

* Task 1: Take measurements on location and order supplies necessary
* Task 2: Write the program to run/implement the system proposed *figure 1*
* Task 3: Install the terminals
* Task 4: Run tests/ debug

1. RESOURCES
   1. **Personnel**

I will be writing the program for displaying the status of the dinning center. I’m a 4th year computer engineering student with a profile of experiences and completed projects that reflect my knowledge and capabilities.

For installing the terminals at the dinning center, outside technicians will be needed as well as

* 1. A picture containing wall, indoor, floor, sky

     Description automatically generated**Equipment**

Terminal: Swing Barrier Gate KB1261 (*figure 2*)

1. COSTS
   1. **Fiscal**

Equipment:

* Software Development = $500.00
* 4 Terminals @ $600.00 = $2,400.00

Installation:

* 3 Technician(10 hours) @ $20.00/hr = $600.00

**Total Cost** = $3,500.00 *figure 2*

* 1. **Time**

Overall this process should take 5 weeks to fully implement.

* Week 1 – Take measurements and order supplies
* Week 2 – 3: Program development
* Week 4: Testing and debugging
* Week 5: Installation and final tests

1. CONCLUSION
   1. **Summary**

Overall the whole process should take about 5 weeks to implement from start to finish and cost around $3,500.00. With a completion time of only 5 weeks this could easily be installed over the summer when the dining centers are closed, and students are away.

* 1. **Contact**

If there are any questions/concerns, please contact me using the information below:

* Email: mgwadle@iastate.edu
* Phone: (515)555 – 1234
  1. **Sources Used**

Pictures taken from:

<https://www.keyable.com.cn/glass-turnstile-swing-barrier-kb1261>

<https://www.google.com/search?safe=active&sxsrf=ACYBGNSS1Gq5pE48AEwWQfnP9Ks9gALgNQ%3A1581398267888&ei=-zhCXqHyNYLAsAXJjqToDQ&q=lied+rec+center&oq=lied+rec+center&gs_l=psy-ab.3..35i39j0i67j0j0i20i263j0.1876.4479..4754...0.1..0.144.1657.5j10......0....1..gws-wiz.......0i71j0i273j0i131.N5SqEPobxF8&ved=0ahUKEwjh24XQ38jnAhUCIKwKHUkHCd0Q4dUDCAs&uact=5>