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Documentation & Solutions - Group 3

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The Concept

We want to create a website/app that allows users to select the order, and pay for what they want without having to wait in line at La Piazza. This website/app would be accessible from 5-6 screens/kiosks located just outside La Piazza at MUSC.

Step by step implementation

In the beginning, there is a database of students in the that contains objects of the Students class, which saves the student name, number, their favorite order and their last order. A user is asked to input their student number. If that number doesn't exist in the existing database of students, the program adds a new object of the Students class to the student list.

If the student is recognized by the program, they are asked whether they would like to order their favorite order, their last order, or a new order. Depending on what they select, a variable of type list called "order" is assigned. This variable is the final output to the user. If the user chooses a new order, they are taken through a series of options to determine what their order is to be. To implement this, we used a separate class file called Restaurants.py, which contains the class Restaurants, which denotes a list of instances of this class. Each restaurant in La Piazza is stored as an instance of the class Restaurants, each being an instance that has the restaurant's name as a string, and the menu as a dictionary with string keys representing items and floating point values representing the price of each item.

The user then chooses items from the menu, which are added/appended to their order list. The program also keeps track of the total price through the variable total. After the user indicates that they have selected all they want, the value of the variable total is stored at the end of the order list. This order is automatically stored as the user's last order, and they are given the option of whether they would like to make that their favorite or not. Finally, the user gets a printed receipt containing the items and the total price.

Limitations & Improvement Plan

There are a few limitations to the existing program. For instance, the UI is through command lines. That was done due to the time limitations, and the vitality of getting the program functional before beautifying it. Other limitations include the fact that we lack the time and knowledge to implement a card-reader API, which would allow the users to pay at the kiosks instead of standing in line, doing so would further improve checkout efficiency. Moreover, we were unable to find a program that would allow for item delivery to the kiosks. However, we do have some suggestions as to how that could be fixed. For example, one of the hospitality services employees could get a version of the receipt the students get upon payment, which would allow for manual delivery of the items to the users. A more expensive, but more automated method would involve an automated and secure conveyor belt going through the various restaurants at La Piazza. Once the payment is processed, the food is prepared, packaged and sent to the

appropriate kiosk for pickup. Due to time constraints, we were unable to implement a professional UI, nor were we able to allow the program to access a database of students. So far, users aren't able to define their favorite/last orders; the program only asks for their student number at the beginning of execution, but doesn't necessarily utilize it. Given more time, we would embed the complete Python file into HTML to create a high-quality website, with a professional UI.