Introduction

* Who I am and what do I do currently
* Agenda
* Define what I am doing
  + The motivation for my capstone is to create a tool to have real time data for operators on which areas are driving their cost per meal (CPM) in Vanderbilt Campus Dining using the Menu Management System, NetMenu and the access and card system, Gold. The opportunity to shorten the feedback loop and push information without having operators run reports will help them guide their day to day decisions for food production.
  + Light Definitions
    - Cost Per Meal = Total Cost of Food on the Menu / Number of Customers that come through the door
    - Forecasted Amount/Cost- a educated guess on amounts to produce
    - Prepared Amount/Cost- the amount that got recorded for production in a real setting
    - Served Amount- the amount of food that was actually purchased
    - Leftover Cost- the difference of the prepared and served cost
* Data Question- How can we get NetMenu data to be displayed with visuals and have it updated with Meal Plan reports coming out of Gold daily?
  + Flow chart of process
  + Introduce dashboard without full dates and send emails
  + Current process
    - Customer counts are manually put into the system
    - There is no dashboard or visualizations to tell operators how they are doing
    - The feedback loop is dependent on human productivity rather than automation, taking attention away from the front end of the process
* Data Cleaning - Python Work & Calculated Fields
  + Used specific libraries to read in entire folders of data and concatenate them into single dataframes. This was needed to put all of the files together as Power Automate sent them in. The goal was not to clean data in PowerBI.
  + Transaction Dataframe- the data was cleaned to a specific point so that it only sent PowerBI the necessary information for that specific Dining Hall. There were many null values that had to be dropped and all the datetime formatting was done before PowerBI.
  + Menu Dataframe- this, by far needed the most cleaning. There was a lot of erroneous information that needed to be sorted through, and there were columns that would lead you to believe that at some point they were calculate fields but they were not. I had to go back to the source system and decipher what was correct and recreate those calculated fields.
  + Power BI- for the specific measure that depended on relationships between the dataframes I made created a ‘measures’ table to drive the cards on the actual dashboard
* Tour of dashboard
* Moving Forward
  + Would always give thanks to foodservice staff for recording this information so that operators have the information they need to make better decisions
  + Move the automation to occur on a cloud computing platform and have the Python script run in the cloud
  + Potentially have this process run twice daily so that the feedback loop can be even shorter
  + Incorporate food waste data as well as purchasing data for a detailed analysis on Cost of Goods
  + Give feedback to the menu management software vendor to have their fields calculate automatically and ability for report to be automated out of their system.

Fallacies and Recommendations