Smart Food Court

Our project aims to provide diner with more convenience when it comes to finding seats in a congested food court. Our team notices the extreme difficulties faced when one tries to locate an empty seat during the jam-packed lunch hours. Hence, we have decided to design a automated seat allocation system. The seat allocation system will search for empty tables in the food court and notify the registered diner once a table is available. Other sub-systems in this project will strive to improve individual's dining experience.

Our main system, the seat allocation system, comprises of a token dispensing machine and a SMS system to be used for notifying the diner. Upon arrival at the food court, the diner will register at the token dispensing machine. A card token will be dispensed to the diner if there are empty table available. The card token is equivalent to possessing the right to use the table in the food court. The number printed on the card token corresponds to the table number that is being allocated to the diner. All card tokens are to be returned to the dispensing machine when the diner leaves the food court. However, in the scenario when all tables are taken, the seat allocation system will require the diner to input their contact number so that a sms notification can be sent when an empty table is present. The sms will contain a 5-digit code which will be used for authentication purpose. Diner will have to input the correct code before the card token is dispensed to him.

A food ordering system is present both as a form of crowd control as well as to provide ease of ordering their meals. Diner can place their orders through this system which takes in their food item and quantity. Different modes of payment are also incorporated into the system. From the stall owner's perspective, he will be able to see the items ordered by the diner in advance so that he can prepare the food as soon as possible.

Cleaning assistance LEDs and smart fan are also installed in the food court to ensure that diner can dine in a clean and comfortable environment. When a diner's presence is detected on the seats, the smart fan will blow at high speed; else the speed of the fan will be determined by the surrounding temperature in the food court. Diner can activate the cleaning assistance switch if they wish to ask for assistance from the cleaners.