COSC 457 - Database Management Systems

**Database for Car Wash**

Krispy Kleans Kar Wash

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# Introduction

This database is for a small owned car wash company, Krispy Kleans, that will keep all information organized and in a central location. Krispy Kleans is a car washing company that will wash cars by hand. The company is small so it only consists of a few workers with different responsibilities, as well as the manager. The company has 1 front desk customer representative, 10 washers, 5 dryers, and 1 manager. Together the team will provide a car wash service with only 3 options, basic, standard, or supreme. Keeping the options simple and straight to the point will allow ease and swiftness of business. The company normally gets about 400 customers a week and makes around $5,000 sales in a week.

The database will be implemented to assist both employees and customers of the company. For employees, they will be able to use the database in order to clock into work. The employees will also be able to use the database to see the customer’s tickets in order to know the required service for the upcoming vehicle.

Other than the employees dealing with clocking in, the database will be used mainly by the customer representative who will deal with the customer accounts ,tickets, receipts, and batch reports. All customers will be given an account for the representative to utilize. The customers will be able to communicate with the customer representative and generate a ticket based on the service they require. The customer representative will also have access to the customers accounts in case any information needs to be altered or if a customer wishes to delete their account. Lastly at the end of the process, a receipt will be generate based on the ticket which has the car wash service.

For the manager's purpose, at the end of every day a batch report will be printed with all of the information on the current day's transactions. This will assist the manager in seeing the weekly income and the favorite services that they provide. Also the manager will be able to use the database in order to see which employees are working that given day. By the employees clocking in through the clock function, the manager will be able to easily see which workers are their for that day and the given area they are working in.

By providing this database the business will move swiftly and customers will be in and out without having to wait for long. The manager will also be able to monitor which workers are on the clock and where they are working for that given day. At the end of the week the manager will also be able to view the timesheets of all workers thanks to the database system keeping track of the weekly hours.

## Target Business

Krispy Kleans Kar Wash is a one of a kind small owned business as it exist in a small town with not many people let alone drivers. The company has prided itself on keeping track of their customers and knowing their favorite washes in order to speed up interactions. The company has a small team of workers however it is just enough to keep the business running smoothly each day. The manager who is present each day keeps track of the workers who are working that certain day and assisting the customer representative in greeting and welcoming its customers.

With a small town population, the company sees on average about 400 customers weekly and they make about $5,000 in sales on average weekly. The cost to keep the company afloat is not much because it is a hand operated system. The washing/dryer of the cars comes from special cleaning supplies and dry towels and that is the only costly thing needed to run the company. With 3 different services for the company, business is simple. As the price goes up different amounts of cleaning coats are included with the supreme options including a full detailed wash on the customer's tires. Other than the cleaning supplies and the payment of the workers the car wash simply pays for itself with a little extra for different purposes.

In terms of the cleaning services, the company will provide 3 different options. The first of the 3 options is basic which includes a full cleanse of the car with a hand dry. The next is standard which will include the same as basic but will also include a nice coat to make the car shine as well as a full vacuum inside of the car. Lastly supreme is the same as basic and standard but will include a cleanse and shine on the car’s wheels/tires. The prices for the services are as follows, basic $9, standard $14, supreme $20. With this combined with a steady amount of customers the company is able to make the average income weekly.

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## Business Process

A day at Krispy Kleans Car Wash begins with the employees arriving, clocking in, and getting ready in their specific work area. There are 4 different types of employees: customer representative, washer, dryer, manager. The customer representative has the biggest job within this company because they have the employee aspect of the system but they also are the middle man between the system and the customers. The customer representative will be in charge of creating tickets for the car wash service. By using a 4 digit code the customer representative will be able to login into the system. When a customer arrives the customer representative will search for the customer's account and information. If an account is not already made, one will be made before a ticket can be generated for the customer.

The 3 different services will be allocated on the ticket depending on the customer’s requests including the service they want and any notes they need to point out. After the ticket has been generated the other employees will be able to look at the database and see the service required for the upcoming vehicle.

At the end of the work day, the employees will clock out and the customer representative will print out a daily report on the transactions for that particular day, used to calculate average earnings for the company. With all of this information to keep track of, the database has a big job in seeing it successfully done. The report of transactions, the viewing of clocked in workers will all be helpful for the company and most importantly the manager. Another positive from the database is the storage of the customer’s information in order to keep the interactions friendly and personal. The customer representative will be able to search for the customers using queues.

The main benefit from this database which will aid to success is the idea of the ticket service. Before the implementation of the database system, the customer would have to verbally tell the workers and customer representative which service they wanted and the customer representative would ring them up for such right then and there. With this system, customers will be able to use the ticket to put their request as well as to easily collect their information when it comes to printing the receipt and paying because the ticket id will be used in order to recover the appropriate receipt.

## User Requirements

### Data Model

User Requirements

1. Allow user to login using 4-digit number.
2. Allow user to create an account with customer name and phone number.
3. Allow user to clock in.
4. Allow user to clock out.
5. Allow user to view all employees clocked in
6. Allow user to create a ticket with details on cleaning service
7. Allow user to print receipt for a customer
8. Allow user to receive batch report of the day's expenses

Data Model Components

1. Employee entity contains the employee login (Emp\_ID) key and allows the employee to clock in and out.
2. Timesheet entity keeps track of the employees who are clocked in
3. Employees are split into either Customer\_Representative, Dryer, Washer, Manager. Each employee type will allow different interactions within the database system
4. Customer\_Representative will be able to create the Customer\_Account with the customer’s name and phone number
5. Receipts can be printed from the Customer\_Account
6. Customer\_Representative can create tickets for the specific service. Which will include all details about the service
7. Batch reports will be received at the end of the day’s shift
8. The Manager can view tickets, receipts, batch reports, and approve employees timesheets.

### Process Model

1. Search Customer\_Account for certain customer
2. Search Clocked for users clocked\_in but not clocked\_out
3. Get receipt for customers
4. Get customer information from ticket #
5. Get batch report of the day’s shift transactions

## ERD

## COSC 457 Project ERD.png

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## Gantt Chart

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| --- | --- |
| Tasks | Group Members Assigned |
| Decide on an organization | All |
| Introduction | Aryn |
| Target Business | Dayna |
| Business Process | Gerardo |
| User Requirements | All |
| ERD | Dayna |
| Gantt Chart | All |
| Java src Code | Aryn |
| Jar file executable | Gerardo |
| Database creation script | Dayna |
| Flyer | Dayna |
| Reference Manual | Gerardo |
| Tutorial Manual | Aryn |
| Planning and organizing ideas | Aryn |
| Creating Presentation (PPT Slides) | All |
| Practice/Real Presentation | All |