

CS631-Data Management systems design

Woody's automotive online application project

Deliverable-3

Team-09

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Goals of this project:

The goal of this part is translating our Relational schema to a real world database framework, populate the database, and create a which is user-friendly, menu-driven for woody's automotive online application.

The application should have a well-designed database schema and instance that can hold a sufficient number of tuples and handle table relationships. It should also provide features for customer registration, service appointments, and its administration. Management and reporting, as well as transaction processing. The program should be simple to use for both staff and customers, and it should allow for the installation of new features in the future.

Furthermore, the program should provide precise data and reports to assist management and the accounting department in making sound judgments. The project should be carried out precisely, with no errors or violations of integrity. The finished result should be thoroughly tested, and it should include a detailed user's guide, source code, SQL command files, and a printout of how to use the program. The program should also be effectively shown in order to highlight its features and benefits.

Revisions:

- No changes to be made in deliverable phase 2.

Problems Encountered:

- Getting the table layout and PHP interfaces to operate properly.
- Assuring that all tables were properly populated with the specified attributes and constraints.
- Incorporating all PHP files to work in accordance with the essential functionalities.

SOFTWARE REQUIREMENT:

PHP:

PHP is a server programming language that may be used to create dynamic and interactive Web sites. PHP is a popular, open-source, and cost-effective alternative to competitors such as Microsoft's ASP.

HTML:

HTML is the language in which most websites are written. HTML is used to create pages and make them functional. A Markup Language is a way that computers speak to each other to control how text is processed and presented. To do this HTML uses two things: tags and attributes.

CSS:

CSS is a stylesheet language used to describe the presentation of an HTML or XML document (including XML dialects such as SVG, MathML, or XHTML). CSS specifies how elements should be shown on screen, paper, during speech, or in other medium.

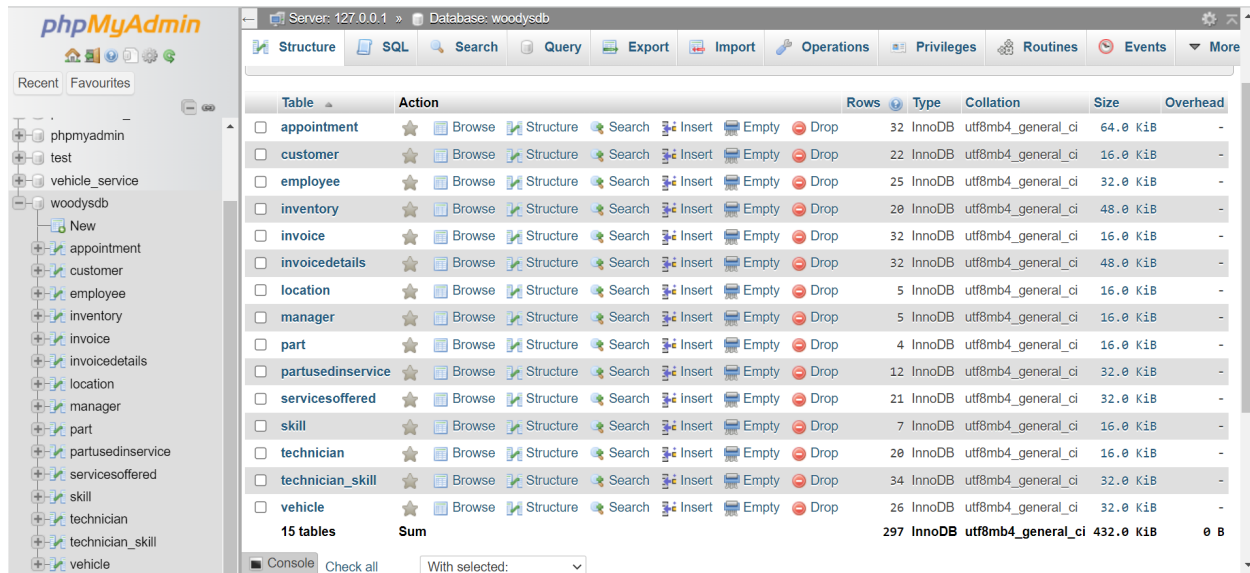
XAMPP:

XAMPP is a free and open-source web server solution. It is mostly used for testing web applications on a local host webserver.

PHPMYADMIN:

phpMyAdmin is a database administration tool for MySQL-compatible databases. It is a graphical tool for creating, developing, and managing MySQL databases. It allows you to create and change database schemas, tables, and relationships using a graphical interface. It also has tools for visualizing data, writing and running SQL queries, and managing database connections.

DATABASE STRUCTURE:



The screenshot shows the phpMyAdmin interface for a database named 'woodysdb'. The left sidebar lists the database and its tables. The main panel displays the 'Structure' tab for the 'woodysdb' database, showing a list of 15 tables with their respective actions, row counts, types, collations, sizes, and overheads.

Table	Action	Rows	Type	Collation	Size	Overhead
appointment	Browse Structure Search Insert Empty Drop	32	InnoDB	utf8mb4_general_ci	64.0 KiB	-
customer	Browse Structure Search Insert Empty Drop	22	InnoDB	utf8mb4_general_ci	16.0 KiB	-
employee	Browse Structure Search Insert Empty Drop	25	InnoDB	utf8mb4_general_ci	32.0 KiB	-
inventory	Browse Structure Search Insert Empty Drop	20	InnoDB	utf8mb4_general_ci	48.0 KiB	-
invoice	Browse Structure Search Insert Empty Drop	32	InnoDB	utf8mb4_general_ci	16.0 KiB	-
invoicedetails	Browse Structure Search Insert Empty Drop	32	InnoDB	utf8mb4_general_ci	48.0 KiB	-
location	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
manager	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
part	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
partusedinservice	Browse Structure Search Insert Empty Drop	12	InnoDB	utf8mb4_general_ci	32.0 KiB	-
servicesoffered	Browse Structure Search Insert Empty Drop	21	InnoDB	utf8mb4_general_ci	32.0 KiB	-
skill	Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_general_ci	16.0 KiB	-
technician	Browse Structure Search Insert Empty Drop	20	InnoDB	utf8mb4_general_ci	16.0 KiB	-
technician_skill	Browse Structure Search Insert Empty Drop	34	InnoDB	utf8mb4_general_ci	32.0 KiB	-
vehicle	Browse Structure Search Insert Empty Drop	26	InnoDB	utf8mb4_general_ci	32.0 KiB	-
15 tables	Sum	297	InnoDB	utf8mb4_general_ci	432.0 KiB	0 B

CREATION OF TABLES:

```
CREATE TABLE Customer (  
    id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
    fname VARCHAR(30) NOT NULL,  
    minit CHAR(1),  
    lname VARCHAR(30) NOT NULL,  
    haddress VARCHAR(100) NOT NULL,  
    phone VARCHAR(15) NOT NULL,  
    creditcard VARCHAR(20) NOT NULL,  
    email VARCHAR(50)  
);
```

```
CREATE TABLE Vehicle (  
    vin VARCHAR(20) NOT NULL,  
    cust_id INT(6) UNSIGNED NOT NULL,  
    model VARCHAR(30) NOT NULL,  
    make_year INT(4) NOT NULL,  
    color VARCHAR(15) NOT NULL,  
    vehicle_type VARCHAR(20) NOT NULL,  
    manufacturer VARCHAR(20) NOT NULL,  
    PRIMARY KEY (vin),  
    CONSTRAINT cust_owns_vehicle FOREIGN KEY (cust_id) REFERENCES Customer(id)  
);
```

```
CREATE TABLE location (  
    id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
    loc_address VARCHAR(100) NOT NULL  
);
```

```
CREATE TABLE Employee (  
    ssn CHAR(9) PRIMARY KEY,  
    loc_id INT(6) UNSIGNED NOT NULL,  
    fname VARCHAR(30) NOT NULL,  
    minit CHAR(1),  
    lname VARCHAR(30) NOT NULL,  
    haddress VARCHAR(100) NOT NULL,  
    hire_date DATE NOT NULL,  
    CONSTRAINT employee_works_at_location FOREIGN KEY (loc_id) REFERENCES  
location(id)  
);
```

```
CREATE TABLE Manager (  
    emp_ssn CHAR(9) PRIMARY KEY,  
    salary int(7) NOT NULL,  
    CONSTRAINT emp_is_manager FOREIGN KEY (emp_ssn) REFERENCES Employee(ssn)  
);
```

```
CREATE TABLE Technician (  
    emp_ssn CHAR(9) PRIMARY KEY,  
    hourly_rate FLOAT(7) NOT NULL,  
    CONSTRAINT emp_is_technician FOREIGN KEY (emp_ssn) REFERENCES  
Employee(ssn)  
);
```

```
CREATE TABLE Skill (  
    id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
    skill_name VARCHAR(100) NOT NULL  
);
```

```
CREATE TABLE technician_skill (  
    tech_ssn CHAR(9) NOT NULL,  
    skill_id INT(6) UNSIGNED NOT NULL,
```

```
PRIMARY KEY (tech_ssn, skill_id),  
CONSTRAINT tech_has_skill FOREIGN KEY (tech_ssn) REFERENCES  
Technician(emp_ssn),  
CONSTRAINT skill_for_tech FOREIGN KEY (skill_id) REFERENCES Skill(id)  
);
```

```
CREATE TABLE ServicesOffered (  
id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
svc_type VARCHAR(50) NOT NULL,  
vehicle_type VARCHAR(25) NOT NULL,  
skill_id INT(6) UNSIGNED NOT NULL,  
price FLOAT(7) NOT NULL,  
CONSTRAINT service_requires_skill FOREIGN KEY (skill_id) REFERENCES Skill(id)  
);
```

```
CREATE TABLE Part (  
id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
part_name VARCHAR(20) NOT NULL,  
price FLOAT(7) NOT NULL  
);
```

```
CREATE TABLE PartUsedInService (  
part_id INT(6) UNSIGNED NOT NULL,  
service_id INT(6) UNSIGNED NOT NULL,  
PRIMARY KEY (part_id, service_id),  
CONSTRAINT part_use_in_service FOREIGN KEY (part_id) REFERENCES Part(id),  
CONSTRAINT service_has_id FOREIGN KEY (service_id) REFERENCES  
ServicesOffered(id)  
);
```

```
CREATE TABLE Inventory (  
id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,  
quantity INT(6) NOT NULL,  
part_id INT(6) UNSIGNED NOT NULL,  
loc_id INT(6) UNSIGNED NOT NULL,  
CONSTRAINT part_in_inventory FOREIGN KEY (part_id) REFERENCES Part(id),  
CONSTRAINT inventory_location FOREIGN KEY (loc_id) REFERENCES location(id)  
);
```

```

CREATE TABLE Appointment (
    id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    appt_date DATE NOT NULL,
    loc_id INT(6) UNSIGNED NOT NULL,
    cust_id INT(6) UNSIGNED NOT NULL,
    vin VARCHAR(20) NOT NULL,
    CONSTRAINT loc_of_service FOREIGN KEY (loc_id) REFERENCES location(id),
    CONSTRAINT cust_makes_appt FOREIGN KEY (cust_id) REFERENCES Customer(id),
    CONSTRAINT vin_in_service FOREIGN KEY (vin) REFERENCES Vehicle(vin)
);

```

```

CREATE TABLE Invoice (
    id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    amount INT(6) NOT NULL,
    date_paid DATE
);

```

```

CREATE TABLE InvoiceDetails (
    appt_id INT(6) UNSIGNED NOT NULL,
    service_id INT(6) UNSIGNED NOT NULL,
    invoice_id INT(6) UNSIGNED NOT NULL,
    price FLOAT(7) NOT NULL,
    status VARCHAR(20) DEFAULT 'Waiting',
    PRIMARY KEY (appt_id, service_id, invoice_id),
    CONSTRAINT appointment_in_detail FOREIGN KEY (appt_id) REFERENCES
Appointment(id),
    CONSTRAINT service_in_detail FOREIGN KEY (service_id) REFERENCES
ServicesOffered(id),
    CONSTRAINT invoice_in_detail FOREIGN KEY (invoice_id) REFERENCES Invoice(id)
);

```

INSERTION STATEMENTS:

```

/* Customer */
INSERT INTO `customer` (`fname`, `minit`, `lname`, `haddress`, `phone`, `creditcard`,
`email`)
VALUES ('John', 'A', 'Smith', '816 Washington Ave, Hoboken, NJ', '2015551822',
'1234123412341234', 'johnsmith@example.com'),
('Jane', NULL, 'Doe', '51 Franklin Rd, East Brunswick, NJ', '2015558162',
'2345234523452345', 'janedow@example.com'),

```

```

('Mark', 'S', 'Hale', '321 Moat Dr, Paramus, NJ', '2015558261', '3456345634563456',
'markhale@example.com'),
('Sam', 'B', 'Roberts', '61 Englewood St, Trenton, NJ', '2015557162',
'4567456745674567', 'samroberts@example.com'),
('Jay', NULL, 'Dale', '12 Broad St, Newark, NJ', '2015557281', '5678567856785678',
'jaydale@example.com'),
('Mario', 'A', 'Fleming', '61 Morleys Green, Hoboken, NJ', '2015557150',
'1111111111111111', 'mariofleming@example.com'),
('Jenny', 'B', 'Hardy', '61 Meadowsweet Town, Hoboken, NJ', '2015557151',
'2222222222222222', 'jennyhardy@example.com'),
('Naomi', 'C', 'Norman', '61 Mallory Garden, Paramus, NJ', '2015557152',
'3333333333333333', 'naominorman@example.com'),
('Herman', 'D', 'Bradshaw', '61 Mackenzie Common, Paramus, NJ', '2015557153',
'4444444444444444', 'hermanbradshaw@example.com'),
('Willie', 'E', 'Winn', '61 Mortonhall Park Green, East Brunswick, NJ', '2015557154',
'5555555555555555', 'williewinn@example.com'),
('Margaret', 'F', 'Choi', '61 Manor Close, East Brunswick, NJ', '2015557155',
'6666666666666666', 'margarethchoi@example.com'),
('Edmund', 'G', 'Whalen', '61 The Croft, Trenton, NJ', '2015557156',
'7777777777777777', 'edmundwhalen@example.com'),
('Mike', 'H', 'Bryant', '61 Primrose St, East Brunswick, NJ', '2015557157',
'8888888888888888', 'mikebryant@example.com'),
('Jonathan', 'I', 'Rangel', '61 Jubilee Rd, Trenton, NJ', '2015557158',
'9999999999999999', 'jonathanrangel@example.com'),
('Connie', 'J', 'Owen', '61 Willow St, Hoboken, NJ', '2015557159',
'1212121212121212', 'connieowen@example.com'),
('Hal', 'K', 'Murry', '61 Swift St, Newark, NJ', '2015557160', '2323232323232323',
'halmurry@example.com'),
('Deb', 'L', 'Schneider', '61 Byron Ave, Hoboken, NJ', '2015557161',
'3434343434343434', 'debschneider@example.com'),
('Keith', 'M', 'Ware', '61 Abe St, Newark, NJ', '2015557163', '4545454545454545',
'keithware@example.com');

```

```

/* Vehicle */

```

```

INSERT INTO `vehicle` (`vin`, `cust_id`, `model`, `make_year`, `color`, `vehicle_type`,
`manufacturer`)

```

```

VALUES ('111111', '1', 'Camry', '2010', 'Blue', 'Car', 'Toyota'),
('211111', '2', 'CRV', '2020', 'Black', 'Van', 'Honda'),
('311111', '3', 'Civic', '2010', 'Blue', 'Car', 'Honda'),

```

```

('411111', '4', 'Y', '2020', 'Blue', 'Car', 'Tesla'),
('511111', '5', 'Discovery', '2012', 'Grey', 'Truck', 'Land Rover'),
('611111', '6', 'Hatchback', '2018', 'Grey', 'Car', 'MINI'),
('711111', '7', 'Q3', '2022', 'Blue', 'Car', 'Audi'),
('811111', '8', 'E-Pace', '2016', 'Black', 'Van', 'Jaguar'),
('911111', '9', 'Ibiza', '2018', 'Red', 'Car', 'Seat'),
('101111', '10', 'Prius', '2017', 'Red', 'Car', 'Toyota'),
('110111', '11', 'Swift', '2009', 'Yellow', 'Van', 'Suzuki'),
('120111', '12', 'Durango', '2013', 'Red', 'Van', 'Dodge'),
('130111', '13', 'Enclave', '2014', 'Grey', 'Van', 'Buick'),
('140111', '14', 'Acadia', '2016', 'Red', 'Truck', 'GMC'),
('150111', '15', 'Sierra', '2020', 'Black', 'Truck', 'GMC'),
('160111', '16', 'Giula', '2022', 'Maroon', 'Car', 'Alfa Romeo'),
('170111', '17', 'X5', '2022', 'Black', 'Truck', 'BMW'),
('180111', '18', 'Passat', '2018', 'Grey', 'Car', 'Volkswagen'),
('182111', '18', 'TLX', '2022', 'Grey', 'Car', 'TLX'),
('172111', '17', 'Focus', '2022', 'White', 'Car', 'Ford'),
('121111', '1', 'Volt', '2022', 'Blue', 'Car', 'Chevrolet');

```

/* Location */

```

INSERT INTO `location` (`loc_address`)
VALUES ('Newark, NJ'),
      ('Trenton, NJ'),
      ('Hoboken, NJ'),
      ('Paramus, NJ'),
      ('East Brunswick, NJ');

```

/* Employee */

```

INSERT INTO `employee` (`ssn`, `loc_id`, `fname`, `minit`, `lname`, `haddress`, `hire_date`)
VALUES ('113456789', '1', 'Michael', 'X', 'Hal', '123 S 9th St, Newark, NJ', '2023-04-10'),
      ('213456789', '1', 'Michelle', 'S', 'Dal', '114 Prince St, Newark, NJ', '2023-03-10'),
      ('313456789', '1', 'Fernando', '', 'Li', '58 Branch Ct, Newark, NJ', '2023-04-10'),
      ('413456789', '1', 'Manuel', '', 'Kreuger', '110 Newark St, Newark, NJ', '2023-03-10'),
      ('513456789', '1', 'Armando', 'K', 'North', '85 Avon Ave, Newark, NJ', '2023-04-10'),
      ('123456789', '2', 'Adrian', 'L', 'Chandler', '158 Franklin St, Trenton, NJ', '2023-03-10'),
      ('223456789', '2', 'Tommy', '', 'Christian', '115 Melrose Ave, Trenton, NJ',
'2023-04-10'),
      ('323456789', '2', 'Traci', '', 'Baldwin', '48 Donald Dr, Trenton, NJ', '2023-03-10'),

```



```

('423456789', '2', 'Angelica', 'S', 'Jordan', '105 Van Camp Alley, Trenton, NJ',
'2023-04-10'),
('523456789', '2', 'Thomas', 'A', 'Darling', '219 Quincy Ave, Trenton, NJ', '2023-03-10'),
('133456789', '3', 'Jaime', '', 'Ward', '151 Washington St, Hoboken, NJ', '2023-04-10'),
('233456789', '3', 'Todd', '', 'Gregory', '791 Washington St, Hoboken, NJ',
'2023-03-10'),
('333456789', '3', 'Ramiro', '', 'Frazier', '80 Willow Ave, Hoboken, NJ', '2023-04-10'),
('433456789', '3', 'Wendell', '', 'Shepard', '467 Clinton St, Hoboken, NJ', '2023-03-10'),
('533456789', '3', 'Ross', '', 'Jenkins', '77 Madison St, Hoboken, NJ', '2023-04-10'),
('143456789', '4', 'Antoinette', '', 'Holt', '16 Midland Ave, Paramus, NJ', '2023-03-10'),
('243456789', '4', 'Everette', 'E', 'Peters', '203 Kendrick St, Paramus, NJ',
'2023-04-10'),
('343456789', '4', 'Taylor', 'O', 'Connel', '98 Paramus Rd, Paramus, NJ', '2023-03-10'),
('443456789', '4', 'Jeffrey', '', 'Hawkins', '162 Arundel Rd, Paramus, NJ', '2023-04-10'),
('543456789', '4', 'Pablo', '', 'Sparks', '212 Ring Rd, Paramus, NJ', '2023-03-10'),
('153456789', '5', 'Vera', 'V', 'Hogan', '30 Brookhill Rd, East Brunswick, NJ',
'2023-03-10'),
('253456789', '5', 'Raymond', 'P', 'Padilla', '293 Timber Rd, East Brunswick, NJ',
'2023-04-10'),
('353456789', '5', 'Lourdes', '', 'Griffin', '100 Hilltop Blvd, East Brunswick, NJ',
'2023-03-10'),
('453456789', '5', 'Alfred', '', 'Wilkins', '281 Claremont Ave, East Brunswick, NJ',
'2023-04-10'),
('553456789', '5', 'Carmen', '', 'Gamble', '300 Woodlot Rd, East Brunswick, NJ',
'2023-03-10');

```

```

/* Manager */

```

```

INSERT INTO `manager` (`emp_ssn`, `salary`)
VALUES ('113456789', '70000'),
('123456789', '60000'),
('133456789', '80000'),
('143456789', '55000'),
('153456789', '84000');

```

```

/* Technician */

```

```

INSERT INTO `technician` (`emp_ssn`, `hourly_rate`)
VALUES ('213456789', '16.50'),
('313456789', '15.50'),
('413456789', '14.50'),

```

```
('513456789','13.50'),  
('223456789','15.50'),  
('323456789','16.50'),  
('423456789','15.50'),  
('523456789','17.50'),  
('233456789','15.50'),  
('333456789','14.50'),  
('433456789','13.50'),  
('533456789','17.50'),  
('243456789','18.50'),  
('343456789','15.50'),  
('443456789','14.50'),  
('543456789','13.50'),  
('253456789','19.50'),  
('353456789','15.50'),  
('453456789','16.50'),  
('553456789','18.50');
```

```
/* Skill */
```

```
INSERT INTO `skill` (`skill_name`)  
VALUES ('Oil change'),  
('Front-end alignment'),  
('Brake'),  
('Tire repair and replacement'),  
('Engine tune-up'),  
('Vehicle computer diagnostic'),  
('State vehicle inspection');
```

```
/* Technician has Skill */
```

```
INSERT INTO `technician_skill` (`tech_ssn`, `skill_id`)  
VALUES ('223456789', '1'),  
('223456789', '2'),  
('223456789', '3'),  
('223456789', '4'),  
('223456789', '5'),  
('223456789', '6'),  
('223456789', '7'),  
('213456789', '1'),  
('213456789', '2'),
```

```
('313456789','2'),
('413456789','3'),
('313456789','3'),
('413456789','4'),
('513456789','4'),
('323456789','5'),
('323456789','6'),
('423456789','7'),
('523456789','4'),
('233456789','2'),
('233456789','4'),
('333456789','6'),
('233456789','6'),
('233456789','5'),
('333456789','7'),
('433456789','3'),
('533456789','2'),
('243456789','1'),
('343456789','5'),
('443456789','2'),
('543456789','6'),
('253456789','2'),
('353456789','1'),
('453456789','3'),
('553456789','1');
```

```
/* Part */
```

```
INSERT INTO `part` (`part_name`, `price`)
VALUES ('Engine', '300'),
      ('Oil', '10'),
      ('Tire', '100'),
      ('Brake', '2000');
```

```
/* Services Offered */
```

```
INSERT INTO `servicesoffered` (`svc_type`, `vehicle_type`, `skill_id`, `price`)
VALUES ('Oil Change', 'Car', '1', '50'),
      ('Front-end alignment', 'Car', '2', '75'),
      ('Brake', 'Car', '3', '200'),
      ('Tire repair and replacement', 'Car', '4', '60'),
```

```

('Engine tune-up', 'Car', '5', '80'),
('Vehicle computer diagnostic', 'Car', '6', '100'),
('State vehicle inspection', 'Car', '7', '10'),
('Oil Change', 'Van', '1', '75'),
('Front-end alignment', 'Van', '2', '100'),
('Brake', 'Van', '3', '300'),
('Tire repair and replacement', 'Van', '4', '70'),
('Engine tune-up', 'Van', '5', '150'),
('Vehicle computer diagnostic', 'Van', '6', '100'),
('State vehicle inspection', 'Van', '7', '10'),
('Oil Change', 'Truck', '1', '50'),
('Front-end alignment', 'Truck', '2', '100'),
('Brake', 'Truck', '3', '400'),
('Tire repair and replacement', 'Truck', '4', '100'),
('Engine tune-up', 'Truck', '5', '200'),
('Vehicle computer diagnostic', 'Truck', '6', '200'),
('State vehicle inspection', 'Truck', '7', '20');

```

/* Part Used In Service */

```

INSERT INTO `partusedinservice` (`part_id`, `service_id`)
VALUES ('2', '5'),
      ('1', '1'),
      ('3', '4'),
      ('4', '3'),
      ('2', '12'),
      ('1', '8'),
      ('3', '11'),
      ('4', '10'),
      ('2', '19'),
      ('1', '15'),
      ('3', '18'),
      ('4', '17');

```

/* Inventory */

```

INSERT INTO `inventory` (`quantity`, `part_id`, `loc_id`)
VALUES ('2', '1', '1'),
      ('20', '2', '1'),
      ('10', '3', '1'),
      ('5', '4', '1'),

```

```
('1','1','2'),
('22','2','2'),
('8','3','2'),
('6','4','2'),
('1','1','3'),
('22','2','3'),
('13','3','3'),
('2','4','3'),
('5','1','4'),
('21','2','4'),
('11','3','4'),
('7','4','4'),
('4','1','5'),
('16','2','5'),
('13','3','5'),
('2','4','5');
```

/* Appointment */

```
INSERT INTO `appointment` (`appt_date`,`loc_id`,`cust_id`,`vin`)
VALUES ('2023-04-27','3','1','111111'),
('2023-04-15','5','2','211111'),
('2023-04-23','4','3','311111'),
('2023-04-13','2','4','411111'),
('2023-04-17','1','5','511111'),
('2023-04-20','3','6','611111'),
('2023-04-21','3','7','711111'),
('2023-04-23','4','8','811111'),
('2023-04-25','4','9','911111'),
('2023-04-27','5','10','101111'),
('2023-04-27','5','11','110111'),
('2023-04-27','2','12','120111'),
('2023-04-27','5','13','130111'),
('2023-04-26','2','14','140111'),
('2023-04-27','3','15','150111'),
('2023-04-27','1','16','160111'),
('2023-04-27','3','17','170111'),
('2023-04-27','1','18','180111'),
('2023-04-27','1','18','182111'),
('2023-04-27','3','1','111111'),
```

```
('2023-04-28','3','1','111111'),  
('2023-04-27','3','1','121111'),  
('2023-04-27','5','2','211111'),  
('2023-04-27','4','3','311111'),  
('2023-04-27','3','17','172111');
```

/* Invoice */

```
INSERT INTO `invoice` (`amount`,`date_paid`)
```

```
VALUES ('200','2023-04-27'),
```

```
    ('200','2023-04-15'),
```

```
    ('200','2023-04-23'),
```

```
    ('200','2023-04-13'),
```

```
    ('200','2023-04-17'),
```

```
    ('200','2023-04-20'),
```

```
    ('200','2023-04-21'),
```

```
    ('200','2023-04-23'),
```

```
    ('200','2023-04-25'),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200','2023-04-26'),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL),
```

```
    ('200',NULL);
```

/* Invoice Details */

```
INSERT INTO `invoicedetails` (`appt_id`,`service_id`,`invoice_id`,`price`,`status`)
```

```
VALUES ('1','1','1','200','Paid'),
```

```
    ('2','9','2','200','Paid'),
```

```
    ('3','4','3','200','Paid'),
```

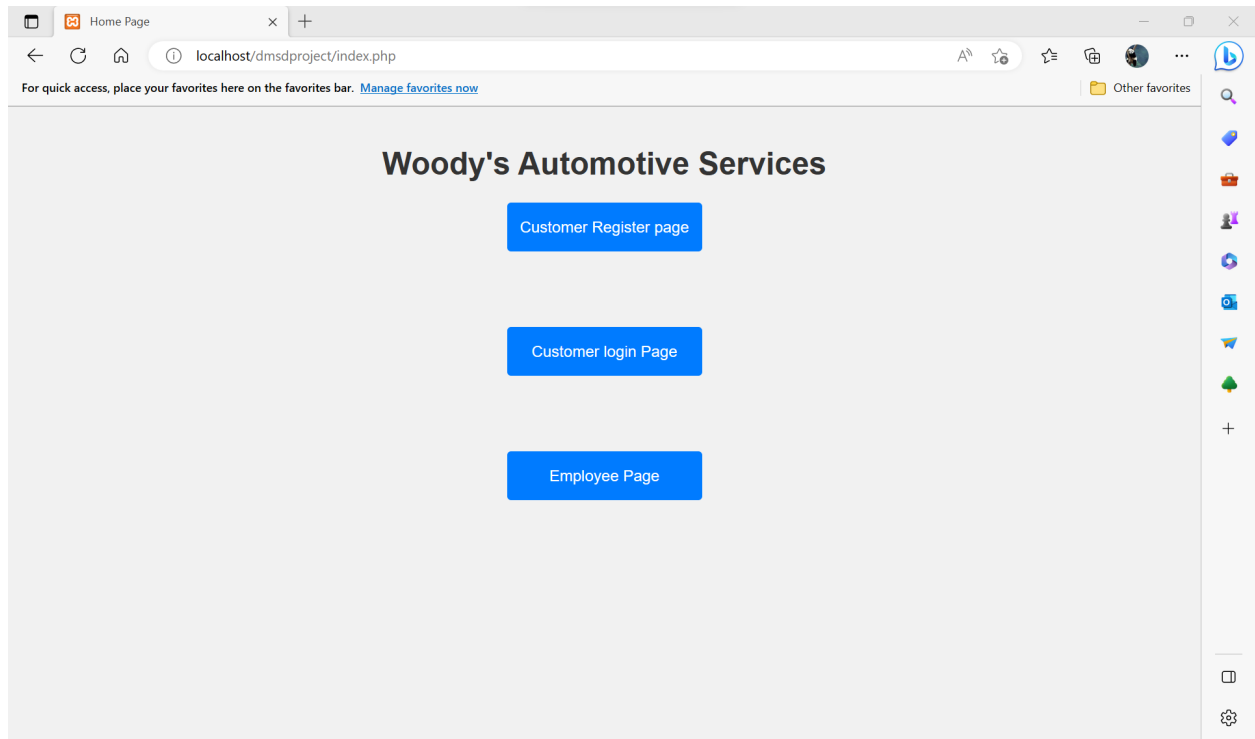
```
('4', '5', '4', '200', 'Paid'),  
( '5', '20', '5', '200', 'Paid'),  
( '6', '5', '6', '200', 'Paid'),  
( '7', '7', '7', '200', 'Paid'),  
( '8', '13', '8', '200', 'Paid'),  
( '9', '6', '9', '200', 'Paid'),  
( '10', '7', '10', '200', 'Waiting'),  
( '11', '12', '11', '200', 'Waiting'),  
( '12', '14', '12', '200', 'Waiting'),  
( '13', '12', '13', '200', 'Waiting'),  
( '14', '17', '14', '200', 'Paid'),  
( '15', '16', '15', '200', 'In Progress'),  
( '16', '6', '16', '200', 'Waiting'),  
( '17', '18', '17', '200', 'In Progress'),  
( '18', '5', '18', '200', 'In Progress'),  
( '19', '6', '19', '200', 'In Progress'),  
( '20', '7', '20', '200', 'In Progress'),  
( '21', '4', '21', '200', 'Waiting'),  
( '22', '7', '22', '200', 'Completed'),  
( '23', '8', '23', '200', 'In Progress'),  
( '24', '6', '24', '200', 'In Progress'),  
( '25', '7', '25', '200', 'In Progress');
```

TESTING:

Different testing techniques are utilized throughout the various stages of project development to ensure a system is free from bugs. The primary goal of testing is to identify errors, vulnerabilities, and defects in the work being produced. By employing different types of testing, it becomes possible to verify the functionality of components, subassemblies, and final products. The main objective is to guarantee that the software system satisfies user expectations and requirements while avoiding any unacceptable failures. Numerous testing methods are available, each catering to specific testing needs.

WEB APPLICATION SCREENSHOTS

Home Page:



Registration Page:

Document

localhost/dmsdproject/customer.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

[Home](#)

Customer Registration

First Name

Middle Name(optional)

Last Name

Home Address

Phone Number

Document

localhost/dmsdproject/customer.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Home Address

Phone Number

Credit Card

Email ID

Register

Login page:

Customer Login Page:

Document x +

localhost/dmsdproject/customerlogin.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

[Home](#)

Customer login

Customer ID

Email ID

[Go to Customer Page](#)

[register](#)

Employee Login Page:

Document x +

localhost/dmsdproject/employee.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

[Home](#)

Employee Log In page

SSN

[Submit](#)

Customer Dashboard:

Viewing users appointments & invoices, payment:

The screenshot shows a web browser window with the URL `localhost/dmsdproject/customerhome.php`. The page title is "Woody's Automotive Services" and the section is "Dashboard". The user is logged in as John Smith. The dashboard displays a list of vehicles with their VIN, Model, Year, Color, Type, and Manufacturer. Below the list, there is a section titled "View Appointments & Invoices" with a form to search by ID. The ID field contains the number "1" and a "View" button is next to it. At the bottom, there is a section titled "Make an Appointment" with a form to create a new appointment.

Woody's Automotive Services

Dashboard

Welcome John Smith!

Your vehicles are:

VIN: - Model: - Year: 0 - Color: - Type: - Manufacturer:

VIN: 111111 - Model: Camry - Year: 2010 - Color: Blue - Type: Car - Manufacturer: Toyota

VIN: 121111 - Model: Volt - Year: 2022 - Color: Blue - Type: Car - Manufacturer: Chevrolet

VIN: 3000 - Model: model s - Year: 2021 - Color: black - Type: Car - Manufacturer: BMW

VIN: 31111 - Model: model s - Year: 2021 - Color: black - Type: Car - Manufacturer: BMW

View Appointments & Invoices

ID

1

View

Make an Appointment

Making an appointment:

The screenshot shows the "Make an Appointment" form. It includes fields for ID, Date, VIN, Type, and Location. The ID field contains the number "1". The Date field is set to "mm/dd/yyyy". The VIN field is empty. The Type field has radio buttons for Car, Van, and Truck. The Location field has radio buttons for Newark, NJ, Trenton, NJ, Hoboken, NJ, Paramus, NJ, and East Brunswick, NJ.

Make an Appointment

ID

1

Date

mm/dd/yyyy

VIN

Type

☐ Car ☐ Van ☐ Truck

Location

Newark, NJ

☐ Trenton, NJ

☐ Hoboken, NJ

☐ Paramus, NJ

☐ East Brunswick, NJ

customer_home x +

localhost/dmsdproject/customerhome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Services

☐ Oil change

☐ Front-end alignment

☐ Brake

☐ Tire repair and replacement

☐ Engine tune-up

☐ Vehicle computer diagnostic

☐ State vehicle inspection

Vehicle Registration

Vehicle Registration:

customer_home x +

localhost/dmsdproject/customerhome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Vehicle Registration

ID

VIN

Model

Year

Color

Manufacturer

Type

☐ Car ☐ Van ☐ Truck

Services Offered

Services Offered:

customer_home

localhost/dmsdproject/customerhome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Services Offered

Service Name	Vehicle Type	Price (Not including labor or Parts)
Oil Change	Car	\$50
Front-end alignment	Car	\$75
Brake	Car	\$200
Tire repair and replacement	Car	\$60
Engine tune-up	Car	\$80
Vehicle computer diagnostic	Car	\$100
State vehicle inspection	Car	\$10
Oil Change	Van	\$75
Front-end alignment	Van	\$100
Brake	Van	\$300
Tire repair and replacement	Van	\$70
Engine tune-up	Van	\$150
Vehicle computer diagnostic	Van	\$100
State vehicle inspection	Van	\$10
Oil Change	Truck	\$50
Front-end alignment	Truck	\$100
Brake	Truck	\$400
Tire repair and replacement	Truck	\$100

customer_home

localhost/dmsdproject/customerhome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Brake	Car	\$200
Tire repair and replacement	Car	\$60
Engine tune-up	Car	\$80
Vehicle computer diagnostic	Car	\$100
State vehicle inspection	Car	\$10
Oil Change	Van	\$75
Front-end alignment	Van	\$100
Brake	Van	\$300
Tire repair and replacement	Van	\$70
Engine tune-up	Van	\$150
Vehicle computer diagnostic	Van	\$100
State vehicle inspection	Van	\$10
Oil Change	Truck	\$50
Front-end alignment	Truck	\$100
Brake	Truck	\$400
Tire repair and replacement	Truck	\$100
Engine tune-up	Truck	\$200
Vehicle computer diagnostic	Truck	\$200
State vehicle inspection	Truck	\$20

[Return](#)

Customer Appointments & Invoices:

Document

localhost/dmsdproject/customerstatus.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

[return](#)

Invoice Number	Date	Location	VIN	Vehicle Type	Service	Status	Price
27	2023-04-27	Newark, NJ	111111	Car	Oil Change	In Progress	\$50
28	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
29	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
30	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
31	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
1	2023-04-27	Hoboken, NJ	111111	Car	Oil Change	Paid	\$20
20	2023-04-27	Hoboken, NJ	111111	Car	State vehicle inspection	In Progress	\$200
21	2023-04-28	Hoboken, NJ	111111	Car	Tire repair and replacement	Waiting	\$200
22	2023-04-27	Hoboken, NJ	121111	Car	State vehicle inspection	Completed	\$200

Payment

Invoice Number

04/27/2023

Pay

Customer Payment Confirmation:

Document

localhost/dmsdproject/paid.php

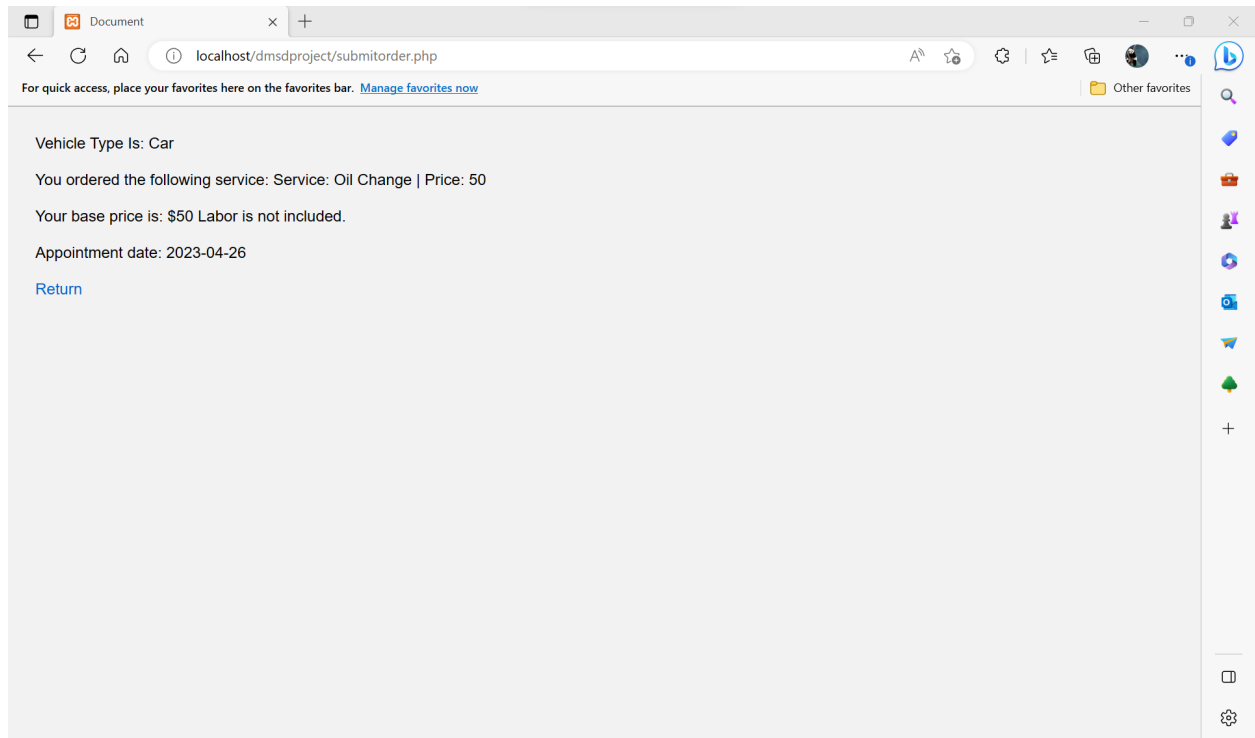
For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

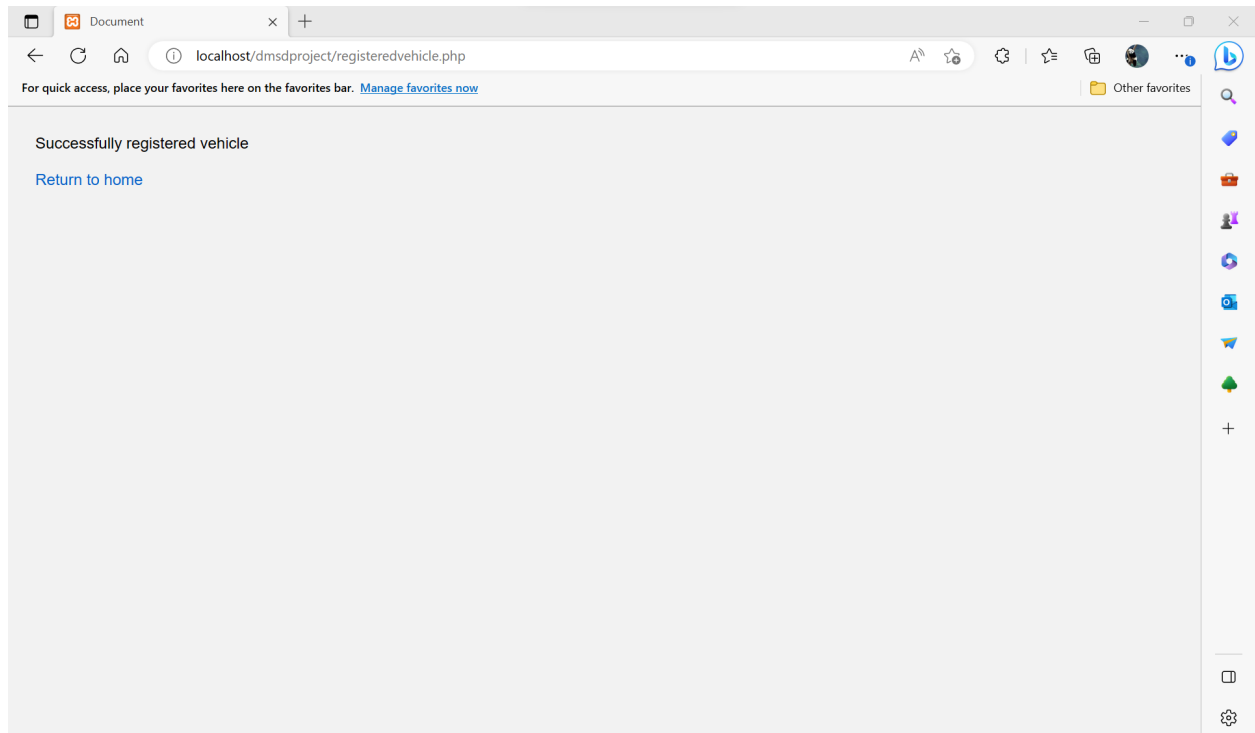
You paid \$50 on 2023-04-27. We charged your credit card.

[Return](#)

Customer Appointment Confirmation:



Vehicle Registration Confirmation:



Employee Dashboard:

Service orders as per date and location:

The screenshot shows a web browser window with the URL `localhost/dmsdproject/employeehome.php`. The page title is "Woody's Automative Services" and the main heading is "Employee Dashboard". Below the heading, a welcome message reads: "Welcome Michael Hal", "You are a manager. You're salary is: \$70000", and "You work at: Newark, NJ". The dashboard is divided into three sections. The first section, "Service Orders as Per Date", contains a text input field with "Newark, NJ", a date input field with "mm/dd/yyyy", and a green "View Date" button. The second section, "Service Orders based on Location", contains a text input field with "Newark, NJ" and a green "View All" button. The third section, "Service Orders based on Date and Location", is currently empty. A vertical sidebar on the right contains various icons for navigation and settings.

Woody's Automative Services

Employee Dashboard

Welcome Michael Hal
You are a manager. You're salary is: \$70000
You work at: Newark, NJ

Service Orders as Per Date

Newark, NJ

Date

mm/dd/yyyy

View Date

Service Orders based on Location

Newark, NJ

View All

Service Orders based on Date and Location

Service Orders based on Date and Location:

The screenshot shows a web browser window with the URL `localhost/dmsdproject/employeehome.php`. The page title is "Service Orders based on Date and Location". Below the title, there is a "Location" section with a list of radio buttons for "Newark, NJ", "Trenton, NJ", "Hoboken, NJ", "Paramus, NJ", and "East Brunswick, NJ". Below the location list is a "Date" section with a text input field for "mm/dd/yyyy" and a green "View" button. The bottom section, "Amount Generated based on Time Frame, Service, and Location", is currently empty. A vertical sidebar on the right contains various icons for navigation and settings.

Service Orders based on Date and Location

Location

Newark, NJ

Trenton, NJ

Hoboken, NJ

Paramus, NJ

East Brunswick, NJ

Date

mm/dd/yyyy

View

Amount Generated based on Time Frame, Service, and Location

Location

Newark, NJ

Amount generated based on time frame, service, and location:

localhost/dmsdproject/employeehome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Service Name

- ☐ Oil change
- ☐ Front-end alignment
- ☐ Brake
- ☐ Tire repair and replacement
- ☐ Engine tune-up
- ☐ Vehicle computer diagnostic
- ☐ State vehicle inspection
- ☐ Vehicle Type

☐ Car ☐ Van ☐ Truck

[View](#)

Three highest revenue-generating locations within a specified timeframe.

Start Date

mm/dd/yyyy

End Date

localhost/dmsdproject/employeehome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Amount Generated based on Time Frame, Service, and Location

Location

- ☐ Newark, NJ
- ☐ Trenton, NJ
- ☐ Hoboken, NJ
- ☐ Paramus, NJ
- ☐ East Brunswick, NJ

Start Date

mm/dd/yyyy

End Date

mm/dd/yyyy

Service Name

- ☐ Oil change
- ☐ Front-end alignment
- ☐ Brake

Three highest revenue-generating locations within a specified timeframe:

localhost/dmsdproject/employee: x

localhost/dmsdproject/employeehome.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Three highest revenue-generating locations within a specified timeframe.

Start Date

mm/dd/yyyy

End Date

mm/dd/yyyy

View

Part List

Part ID	Part Name	Location	Quantity	Price
1	Engine	Newark, NJ	1	300
2	Oil	Newark, NJ	20	10
3	Tire	Newark, NJ	10	100
4	Brake	Newark, NJ	5	2000
1	Engine	Trenton, NJ	1	300
2	Oil	Trenton, NJ	22	10
3	Tire	Trenton, NJ	8	100
4	Brake	Trenton, NJ	6	2000

Service orders as per date view:

Invoice Number	Date	Location	VIN	Vehicle Type	Service	Status	Price
1	2023-04-27	Hoboken, NJ	111111	Car	Oil Change	Paid	\$20
10	2023-04-27	East Brunswick, NJ	101111	Car	State vehicle inspection	Waiting	\$200
11	2023-04-27	East Brunswick, NJ	110111	Van	Engine tune-up	Waiting	\$200
12	2023-04-27	Trenton, NJ	120111	Van	State vehicle inspection	Waiting	\$200
13	2023-04-27	East Brunswick, NJ	130111	Van	Engine tune-up	Waiting	\$200
15	2023-04-27	Hoboken, NJ	150111	Truck	Front-end alignment	In Progress	\$200
16	2023-04-27	Newark, NJ	160111	Car	Vehicle computer diagnostic	Completed	\$200
17	2023-04-27	Hoboken, NJ	170111	Truck	Tire repair and replacement	In Progress	\$200
18	2023-04-27	Newark, NJ	180111	Car	Engine tune-up	Completed	\$20
19	2023-04-27	Newark, NJ	182111	Car	Vehicle computer diagnostic	In Progress	\$200
20	2023-04-27	Hoboken, NJ	111111	Car	State vehicle inspection	In Progress	\$200
22	2023-04-27	Hoboken, NJ	121111	Car	State vehicle inspection	Completed	\$200
23	2023-04-27	East Brunswick, NJ	211111	Van	Oil Change	Paid	\$200
24	2023-04-27	Paramus, NJ	311111	Car	Vehicle computer diagnostic	In Progress	\$200
25	2023-04-27	Hoboken, NJ	172111	Car	State vehicle inspection	Waiting for parts	\$200
27	2023-04-27	Newark, NJ	111111	Car	Oil Change	In Progress	\$50
28	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50

24	2023-04-27	Paramus, NJ	311111	Car	Vehicle computer diagnostic	In Progress	\$200
25	2023-04-27	Hoboken, NJ	172111	Car	State vehicle inspection	Waiting for parts	\$200
27	2023-04-27	Newark, NJ	111111	Car	Oil Change	In Progress	\$50
28	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
29	2023-04-27	Newark, NJ	111111	Car	Oil Change	Paid	\$50
30	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
31	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50

Change Status

Status

☐ Waiting for parts ☐ In Progress ☐ Completed

Invoice Number

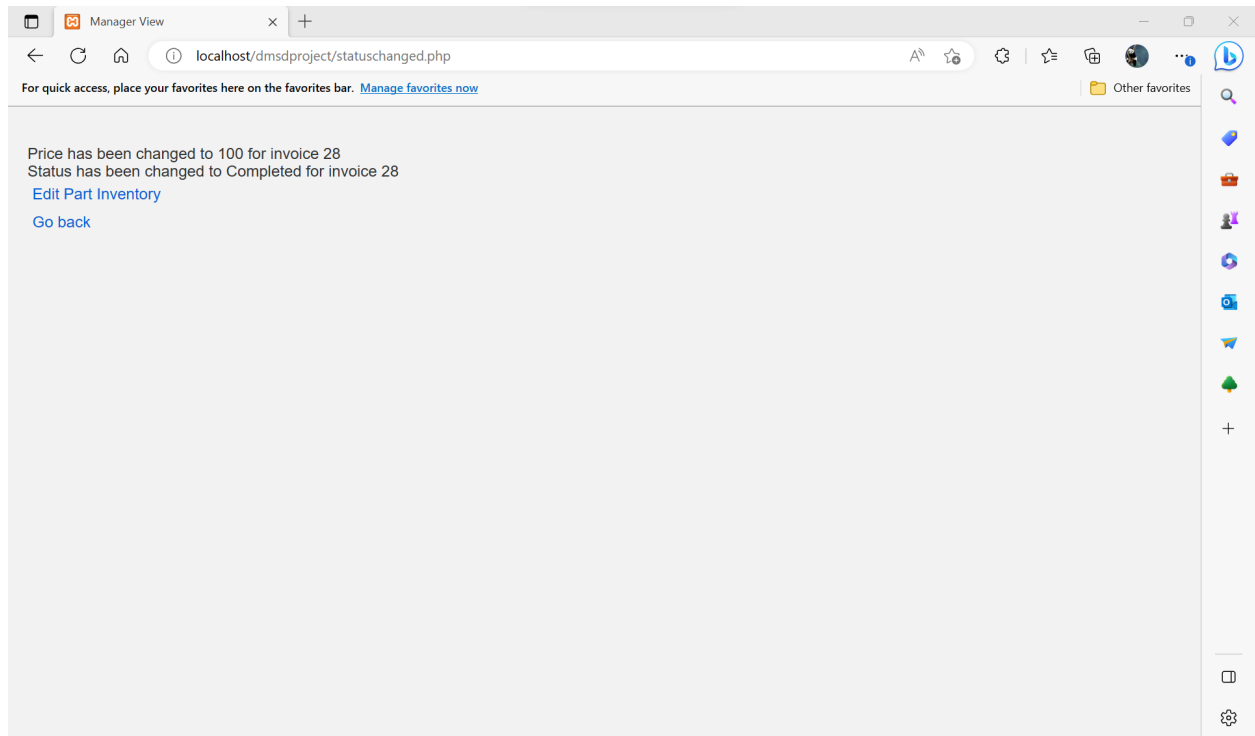
New Price With Added Parts & Labor

[Submit Changes](#)

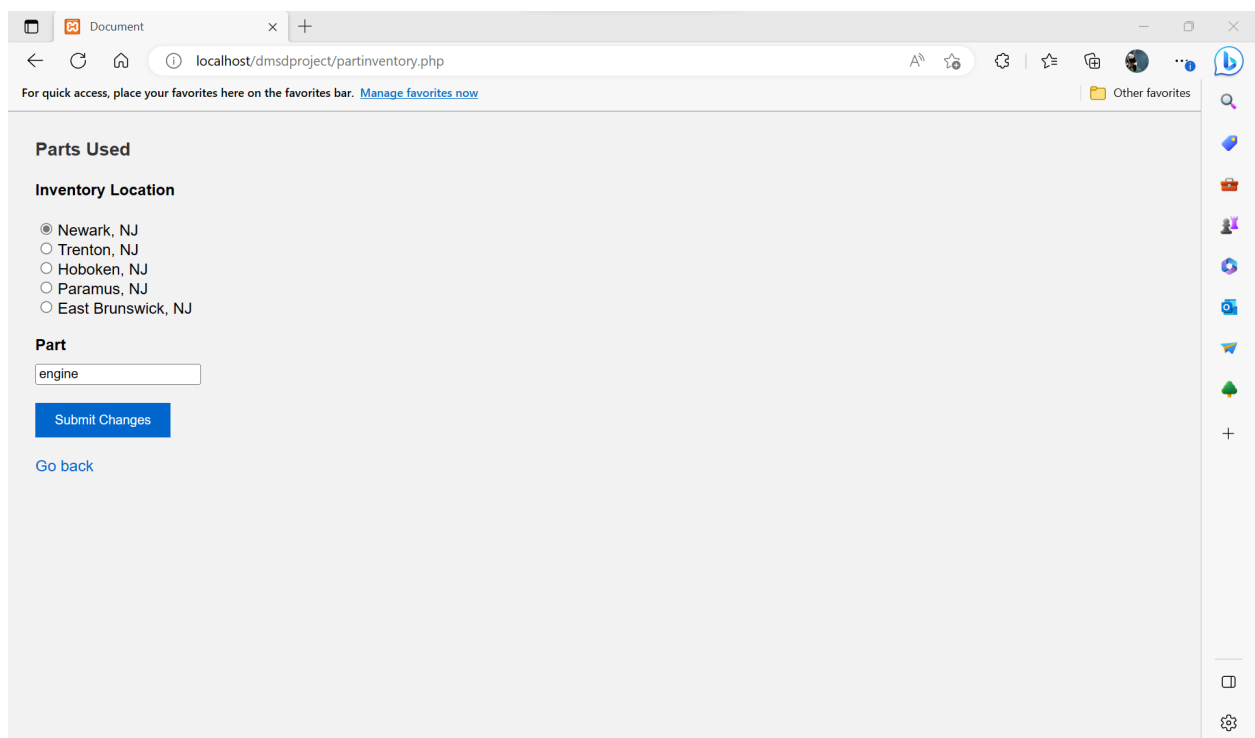
[Edit Part Inventory](#)

[Go back](#)

Status Change Confirmation:



Edit Part Inventory:



Edit parts Update Confirmation:

Document

localhost/dmsdproject/partupdate.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Parts have been updated.

Part List

Part ID	Part Name	Location	Quantity	Price
1	Engine	Newark, NJ	0	300
2	Oil	Newark, NJ	20	10
3	Tire	Newark, NJ	10	100
4	Brake	Newark, NJ	5	2000
1	Engine	Trenton, NJ	1	300
2	Oil	Trenton, NJ	22	10
3	Tire	Trenton, NJ	8	100
4	Brake	Trenton, NJ	6	2000
1	Engine	Hoboken, NJ	1	300
2	Oil	Hoboken, NJ	22	10
3	Tire	Hoboken, NJ	13	100
4	Brake	Hoboken, NJ	2	2000
1	Engine	Paramus, NJ	2	300

Document

localhost/dmsdproject/partupdate.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

3	Tire	Trenton, NJ	8	100
4	Brake	Trenton, NJ	6	2000
1	Engine	Hoboken, NJ	1	300
2	Oil	Hoboken, NJ	22	10
3	Tire	Hoboken, NJ	13	100
4	Brake	Hoboken, NJ	2	2000
1	Engine	Paramus, NJ	2	300
2	Oil	Paramus, NJ	21	10
3	Tire	Paramus, NJ	11	100
4	Brake	Paramus, NJ	7	2000
1	Engine	East Brunswick, NJ	4	300
2	Oil	East Brunswick, NJ	16	10
3	Tire	East Brunswick, NJ	13	100
4	Brake	East Brunswick, NJ	2	2000

[Return](#)

Manager View based on Date:

Manager View

localhost/dmsdproject/managerviewall.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Invoice Number	Date	Location	VIN	Vehicle Type	Service	Status	Price
5	2023-04-17	Newark, NJ	511111	Truck	Vehicle computer diagnostic	Paid	\$200
16	2023-04-27	Newark, NJ	160111	Car	Vehicle computer diagnostic	Completed	\$200
18	2023-04-27	Newark, NJ	180111	Car	Engine tune-up	Completed	\$20
19	2023-04-27	Newark, NJ	182111	Car	Vehicle computer diagnostic	In Progress	\$200
27	2023-04-27	Newark, NJ	111111	Car	Oil Change	In Progress	\$50
28	2023-04-27	Newark, NJ	111111	Car	Oil Change	Completed	\$100
29	2023-04-27	Newark, NJ	111111	Car	Oil Change	Paid	\$50
30	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
31	2023-04-27	Newark, NJ	111111	Car	Oil Change	Waiting	\$50
32	2023-04-26	Newark, NJ	3000	Car	Oil Change	Waiting	\$50

Change Status

Status

☐ Waiting for parts
 ☐ In Progress
 ☐ Completed

Invoice Number

Manager view of Service Orders based on Date and Location:

Appointments

localhost/dmsdproject/managerviewdayloc.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Invoice Number	Date	Location	VIN	Vehicle Type	Service	Status	Price
1	2023-04-27	Hoboken, NJ	111111	Car	Oil Change	Paid	\$20
15	2023-04-27	Hoboken, NJ	150111	Truck	Front-end alignment	In Progress	\$200
17	2023-04-27	Hoboken, NJ	170111	Truck	Tire repair and replacement	In Progress	\$200
20	2023-04-27	Hoboken, NJ	111111	Car	State vehicle inspection	In Progress	\$200
22	2023-04-27	Hoboken, NJ	121111	Car	State vehicle inspection	Completed	\$200
25	2023-04-27	Hoboken, NJ	172111	Car	State vehicle inspection	Waiting for parts	\$200

Change Status

Status ☐ Waiting for parts ☐ In Progress ☐ Completed

Invoice Number

New Price With Added Parts & Labor

Submit Changes

[Go back](#)

Manager view based on time frame, service, and location:

localhost/dmsdproject/managen...

localhost/dmsdproject/managerviewdaylocsrv.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

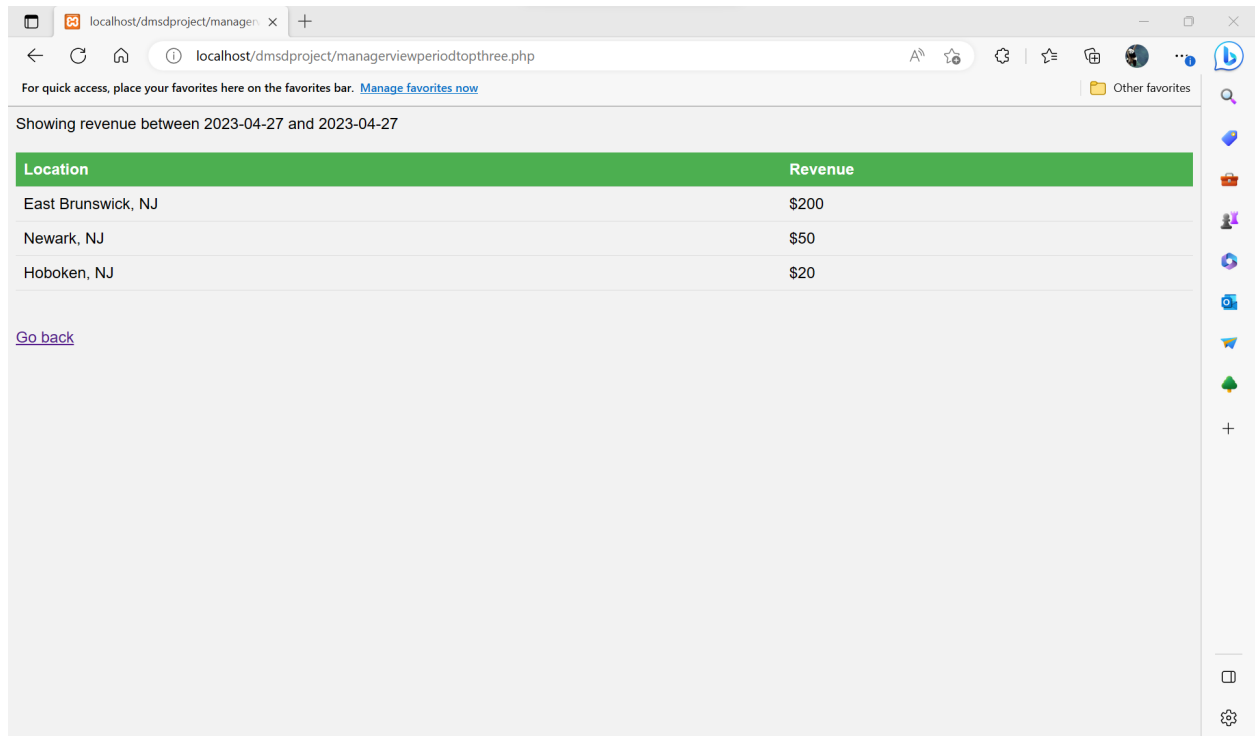
Other favorites

Invoice Number	Date	Location	VIN	Vehicle Type	Service	Status	Price
1	2023-04-27	Hoboken, NJ	111111	Car	Oil Change	Paid	\$20

Total Revenue: \$20

[Go back](#)

Three highest revenue generating locations:



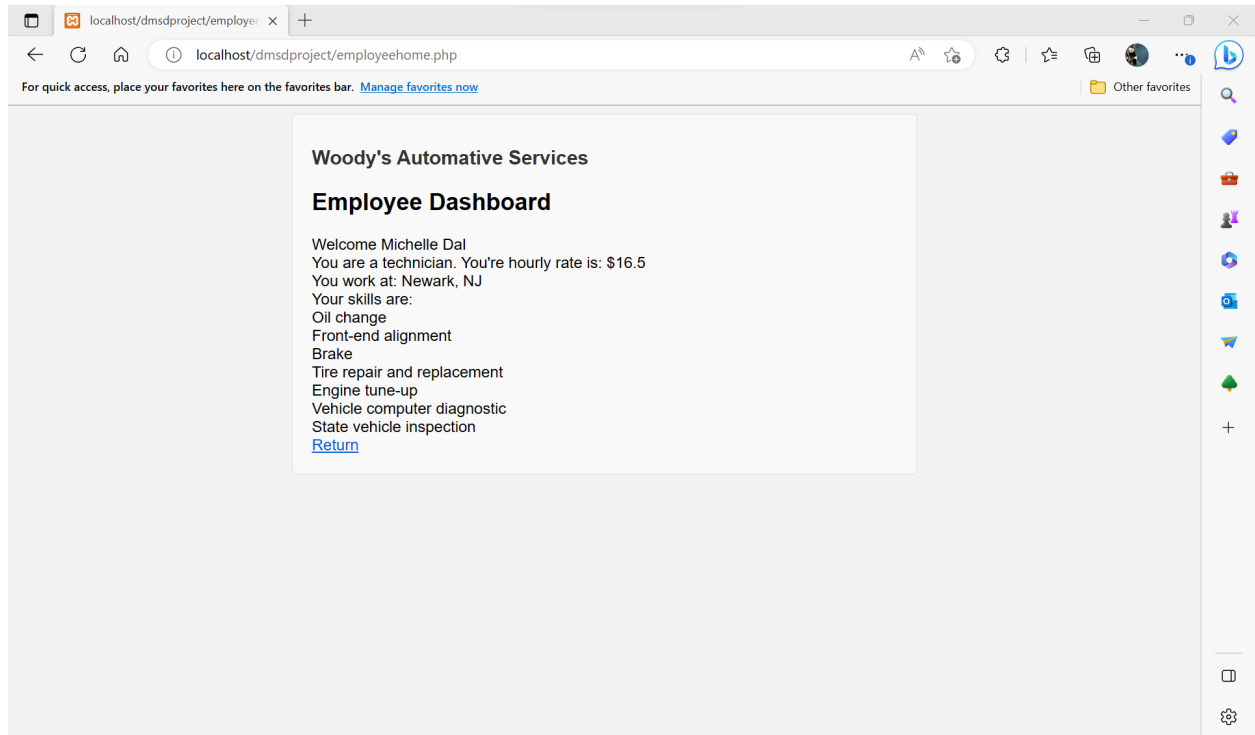
The screenshot shows a web browser window with the address bar displaying 'localhost/dmsdproject/manager' and the page URL 'localhost/dmsdproject/managerviewperiodtopthree.php'. The page content includes a header for the table and a 'Go back' link.

Showing revenue between 2023-04-27 and 2023-04-27

Location	Revenue
East Brunswick, NJ	\$200
Newark, NJ	\$50
Hoboken, NJ	\$20

[Go back](#)

Technician Dashboard:



Edit Profile:

Edit Customer Profile

localhost/dmsdproject/editprofile.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

Edit Customer Profile

First Name

Jane

Middle Name

r

Last Name

Doe

Home Address

51 Franklin Rd, East Brunswick, NJ

Phone Number

201555816209

Credit Card Number

2345234523452345

Email

Edit Customer Profile

localhost/dmsdproject/editprofile.php

For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

Other favorites

First Name

Jane

Middle Name

r

Last Name

Doe

Home Address

51 Franklin Rd, East Brunswick, NJ

Phone Number

201555816209

Credit Card Number

2345234523452345

Email

janedow@example.com

Update

Cancel