



**T.C**  
**MARMARA UNIVERSITY**  
**FACULTY OF ENGINEERING**  
**COMPUTER ENGINEERING DEPARTMENT**

CSE4093 Special  
Topics Project  
Analysis

Fırat Bakıcı  
150120029 – Invoice  
Payment

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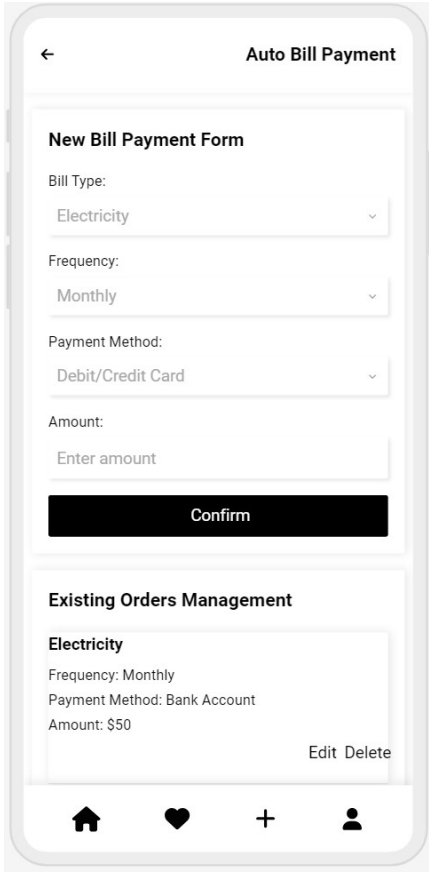
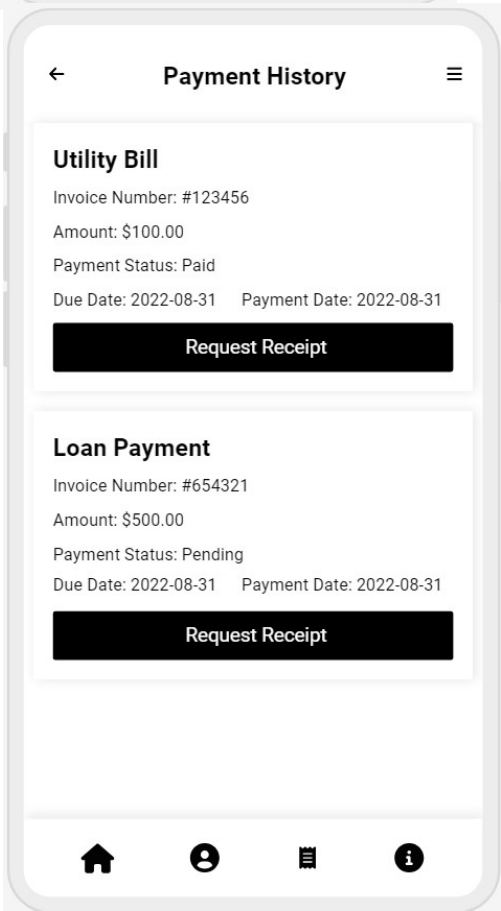
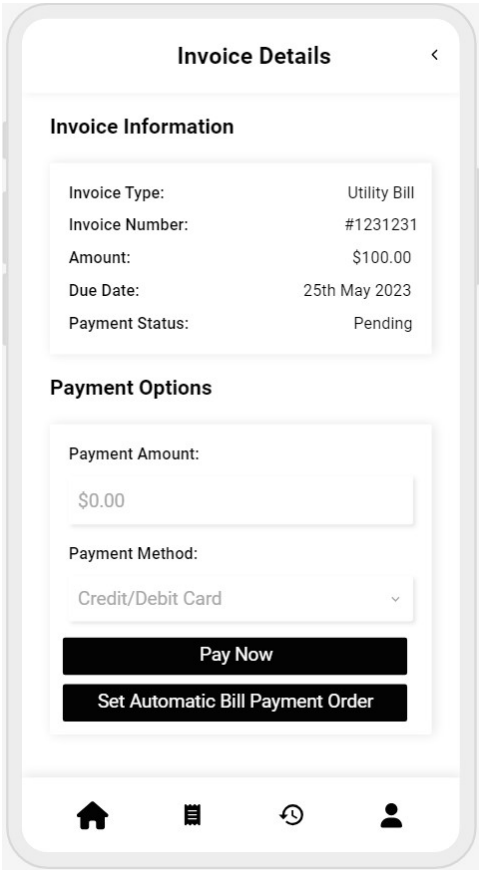
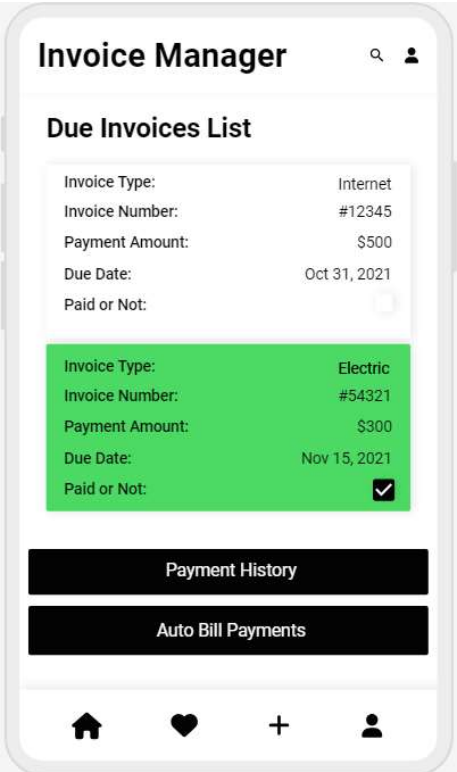
## Story Of The Application

Our invoice payment platform simplifies invoice management and payment processes without analytics, yet it offers a receipt retrieval feature for individual invoices.

- **Invoice Overview:** Users effortlessly access their payment histories directly from the dashboard, displaying dates and details of past invoices.
- **Invoice Management:** Invoices, like electricity, water, and telephone bills, are neatly categorized and easily filtered by year and month, ensuring quick access to specific invoice details.
- **Payment Reminders and Auto-pay:** The platform efficiently stores invoice details and sends timely reminders for due dates. Users can opt for auto-pay to automate recurring payments, ensuring bills are paid punctually without manual intervention.
- **Payment Process:** Guided payment steps ensure users navigate smoothly through the payment process, receiving instant confirmation upon completion. Additionally, users can easily request receipts for individual invoices.

In summary, our invoice payment application simplifies the management and payment of various invoices, offering a user-friendly experience from organizing invoices to processing payments, all while providing the convenience of receipt retrieval for individual invoices.

# Screenshots



Manage Auto Bill Payment Order

Existing Order Details

Invoice Type: Electric

Payment Amount: \$100.00

Payment Frequency: Monthly

Payment Method: Bank Account

Edit Options

Frequency:

Monthly

Payment Method:

Credit Card

Payment Amount:

\$100.00

Confirm

Delete

Home

Calendar

Settings

User

Admin Invoice Registration

Invoice Details

Invoice Number

Amount

Due Date

dd/mm/yy

Invoice Type

Utility Bill

Recipient Selection

Select Recipient

Recipient 1 / User ID

Add New Recipient

Submit Invoice

Home

Calendar

Refresh

User

# Database Design

## Invoices

| Field          | Type             | Description                                      |
|----------------|------------------|--|
| invoice_id     | Primary Key, INT | Unique identifier for each invoice.              |
| user_id        | VARCHAR          | Username chosen by the user.                     |
| bill_type      | VARCHAR          | Type of the invoice.                             |
| bill_amount    | DECIMAL          | Amount of the invoice.                           |
| due_date       | VARCHAR          | Date by which the invoice must be paid.          |
| payment_status | VARCHAR          | Status of the payment (Paid or Unpaid).          |
| creation_date  | VARCHAR          | Date and time when the invoice was created.      |
| update_date    | DATETIME         | Date and time when the invoice was last updated. |

## Automatic Payment Table

| Field          | Type             | Description   |
|----------------|------------------|---|
| autopay_id     | Primary Key, INT | Unique identifier for each automatic payment setup.                   |
| user_id        | VARCHAR          | References the user who set up automatic payment.                     |
| bill_type      | VARCHAR          | Type of the invoice to be automatically paid.                         |
| payment_amount | VARCHAR          | Amount of the payment.  |
| payment_method | VARCHAR          | Method used for the automatic payment (Account or Credit Card).       |
| frequency      | VARCHAR          | Frequency of automatic payments (e.g., monthly, quarterly, annually). |

# Web Service Design

## Endpoints

**Endpoint:** GET /user/{userID}/bills

**Purpose:** Retrieve a list of bills associated with the specified user.

**Request Data:** None

**Response Data:** JSON formatted list containing details of all bills belonging to the user.

**Endpoint:** GET /user/{userID}/bills/{billID}

**Purpose:** Retrieve details of a specific bill for the specified user.

**Request Data:** None

**Response Data:** JSON formatted data containing detailed information about the specified bill.

**Endpoint:** PUT /user/{userID}/bills/{billID}

**Purpose:** Update the details of a specific bill for the specified user.

**Request Data:** JSON formatted data containing the updated details of the bill.

**Response Data:** JSON formatted data confirming the successful update of the bill.

**Endpoint:** POST /user/{userID}/payments

**Purpose:** Make a payment for a bill associated with the specified user.

**Request Data:** JSON formatted data containing payment details such as bill ID, payment amount, and payment method.

**Response Data:** JSON formatted data confirming the successful payment transaction.

**Endpoint:** POST /user/{userID}/bills

**Purpose:** Create a new bill for the specified user.

**Request Data:** JSON formatted data containing details of the new bill to be created.

**Response Data:** JSON formatted data confirming the successful creation of the new bill, including its unique identifier (billID).