**Project Title:** Expense Tracker System

**Name:** Kolajo Kazeem(Gazar)

8 June 2020

The Expense Tracker is a web application that helps users manage their income, track expenses, set budgets, and view financial reports. It uses Flask for the backend, MongoDB for the database, and HTML/CSS/JavaScript for the frontend.

| Tool/Technology | Purpose |
|---|---|
| **Flask** | Web framework (Python) |
| **MongoDB** | NoSQL database for storing user data, expenses, budgets |
| Postman | Used for testing API endpoints |
| **HTML/CSS/JS** | Frontend for user interface |
| **Pydantic** | Data validation |
| **Render / Localhost** | Hosting/testing environment |

**API Documentation:**

**POST /api/v1/users/register**

- **Description:** Register a new user
- **Method:** POST
- **Headers:**

Content-Type: application/json

- **Request Body:**

{

  "name": "Olabisi",

  "email": "Olabisi@gmail.com",

  "password": "bisi12345",

  "phone": "08115016091",

  "age": 25

}

- **Success Response:**
  {
    **"message": "User registered successfully",**

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```
  "id": "123ssa2422vvA",
  "name": "Olabisi",
  "email": " Olabisi@gmail.com "
}
```

- **Error Responses:**
  400: Invalid input
  409: User already exists

**POST /api/v1/users/login**

**Description:** Authenticate user and return token

Request Body:

```
{
  "email": "Olabisi@gmail.com",
  "password": "bisi12345"
}
```

**Success Response:**

```
{
  "id": "23ssa2422vvA",
  "email": "Olabisi@gmail.com",
  "token": "xyz123"
}
```

**Add Expense:**

**POST {{base_url}}/expenses**

**Description:** Adds a new expense entry.

**Headers:**

- Content-Type: application/json

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| Field | Type | Description | Required |
|-------|------|-------------|----------|
| user_id | string | ObjectId of user | ✓ |
| title | string | Short expense title | ✓ |
| category | string | Expense category | ✓ |
| amount | float | Expense amount | ✓ |
| date | string | ISO date (YYYY-MM-DD) | ✓ |

**Example Request:**

```
{
 "user_id": "64aabc123def4567890abcd1",
 "title": "Lunch",
 "category": "Food",
 "amount": 12.50,
 "date": "2025-06-14"
}
```

**Success Response (201 Created):**
**{ "expense_id": "64ae1234abc567890defabcd2" }**

**Get Report:**
**GET /reports/64aabc123def4567890abcd1**

**Success Response (200 OK):**

```
{
  "id": "64b0123456abc7890def1234",
  "user_id": "64aabc123def4567890abcd1",
  "title": "June Summary",
  "description": "Overview of June spending",
  "start_date": "2025-06-01",
  "end_date": "2025-06-30",
  "total_budget": 1500,
  "total_expense": 820.75,
  "total_income": 2000,
  "generated_at": "2025-06-30T23:59:59Z"
```

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**}**

## Common Errors

- **400 Bad Request** – Input validation error
- **401 Unauthorized** – Not authenticated or invalid credentials
- **404 Not Found** – Resource not found
- **409 Conflict** – Already exists (e.g., duplicate email)
- **500 Internal Server Error** – Unexpected errors