BAKHT ESTATE

Applied Software Engineering DIP 392

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Github repository:
https://github.com/tursunmurodov/DIP392-group_M.R.D.D.CJ

Project overview

Developed a real estate listing web application with **Angular**.
Features:

- View service pricing
- Book appointments online
- Receive automatic email confirmations
- The goal was to reduce administrative overhead and improve client experience through digital transformation.

SDLC methodology

Agile Methodology was chosen for its flexibility and iterative nature.

Why Agile?

- Rapid prototyping and user feedback
- Incremental development of components
- Easy to adjust project direction and scope

Requirements analysis

Our initial phase involved understanding the client’s needs through direct consultation. Key findings included:

- The need for a service pricing display
- A user-friendly appointment booking interface
- An automated email notification system

We clarified technical expectations, user journey, and interface preferences to ensure alignment before development began.

Requirements

Functional Requirements:

- Book an appointment (multi-step form)
- View property/service visuals
- Confirm booking with backend interaction

Non-Functional Requirements:

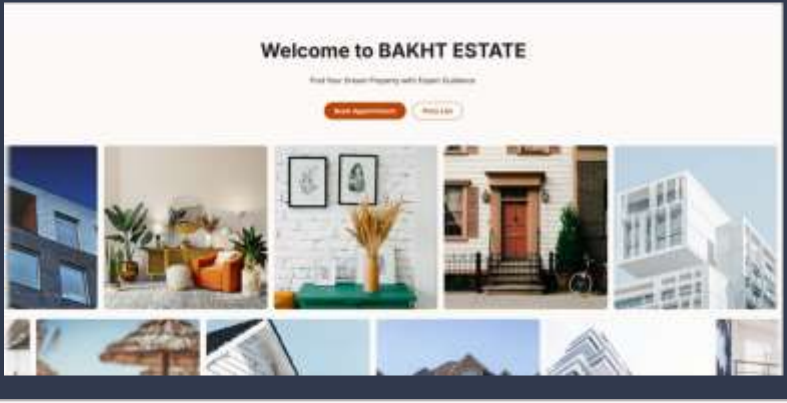
- Responsive design for mobile and desktop
- Fast load time and form validation
- Clean UI/UX

Security and Software design architecture

- Frontend: AngularJS – responsive, component-based UI
- Backend: FastAPI – RESTful API to manage bookings and email logic
- Database: JSON-based for prototype phase (scalable later)

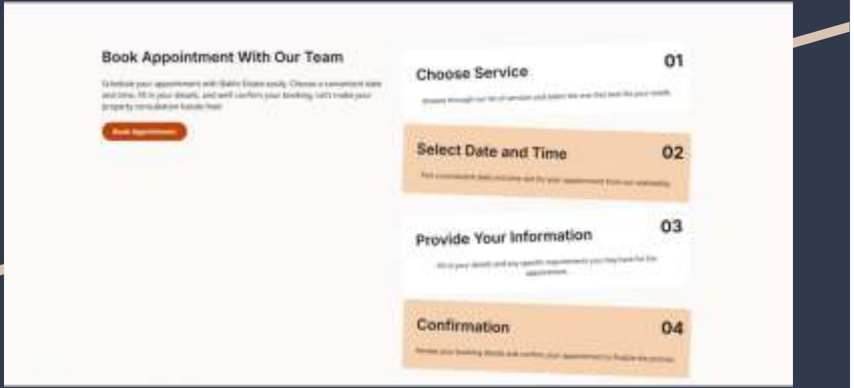
Security and performance were given important from the start, with plans for future integration of more advanced features like authentication and encryption.

Design



Welcome to BAKHT ESTATE

Find Your Dream Property with Expert Guidance



Book Appointment With Our Team

Schedule your appointment with Bakht Estate easily. Choose a convenient date and time, fill in your details, and we'll confirm your booking. Let's make your property consultation hassle-free!

Choose Service 01

Browse through our list of services and select the one that best fits your needs.

Select Date and Time 02

Pick a convenient date and time slot for your appointment from our availability.

Provide Your Information 03

Fill in your details and any specific requirements you may have for the appointment.

Confirmation 04

Review your booking details and confirm your appointment to finalize the process.

The BAKHT ESTATE website was designed with a **modern, clean, and responsive layout** using Angular’s component-based structure.

Key Design Elements:

- Modular components (e.g.,Mainpage,Appointment, EstateCards)
- Angular routing with SPA navigation
- Responsive grid layout with custom CSS
- Semantic structure and readable typography

Implementation

Framework: Angular 16 with TypeScript

Routing: SPA with Angular Router

Styling: Custom CSS (or Bootstrap if applicable)

Scripts: Built-in Angular CLI tooling (`ng serve`, `ng build`)

Structure: Modular folder layout for components/services

Testing

To ensure quality and reliability, we applied:

- Unit Testing (for backend functions and form validation)
- Integration Testing (frontend-backend communication)
- User Acceptance Testing (client review and feedback loop)
- Compatibility Testing (multiple browsers and devices)

Test Results and Validation:

- The system was validated against both functional and non-functional requirements:
- Price listing displayed correctly across devices
- Booking submissions processed successfully
- Email confirmations were reliably triggered
- Client verified the system met their business needs

Challenges and lessons :

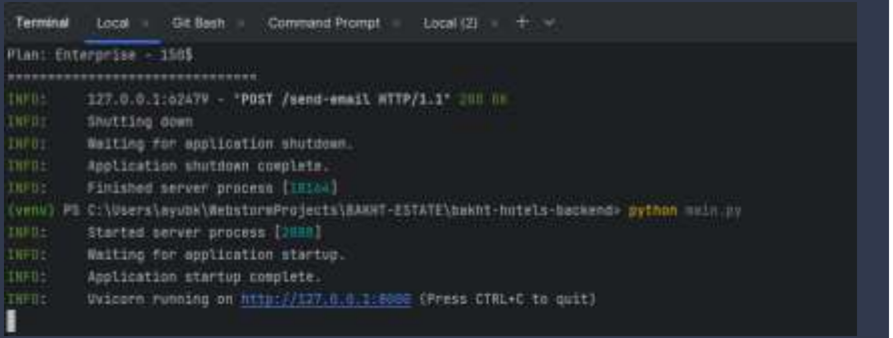
Challenges:

- Coordination between the team members while working with front and backend was less effective cause of communication issues.
- We had to manage our time with the deadline carefully
- Making the UI more user friendly was quite hard

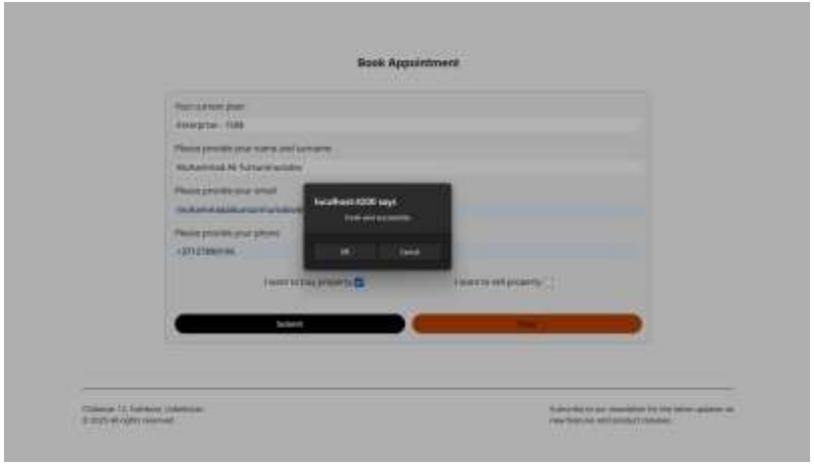
Lessons Learned:

- Planning the project in advance helps in avoiding delays during integration
- Getting user feedback as early as starting the project would prevent costly redesign
- Real client interaction offers valuable industry experience

Demo overview:



```
Plan: Enterprise - 150$
********************************
INFO:     127.0.0.1:62479 - "POST /send-email HTTP/1.1" 200 OK
INFO:     Shutting down
INFO:     Waiting for application shutdown.
INFO:     Application shutdown complete.
INFO:     Finished server process [18164]
(venv) PS C:\Users\ayubk\WebstormProjects\BAKHT-ESTATE\bakht-hotels-backend> python main.py
INFO:     Started server process [2888]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
INFO:     Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
```



Book Appointment

Your current plan:
Enterprise - 150$

Please provide your name and surname
Muhammad Ali Tursunmurodov

Please provide your email
[illegible]

Please provide your phone
+37127890196

localhost:3000 says
Email sent successfully!

I want to buy property ☑ I want to sell property □

Chilonzor 12, Tashkent, Uzbekistan
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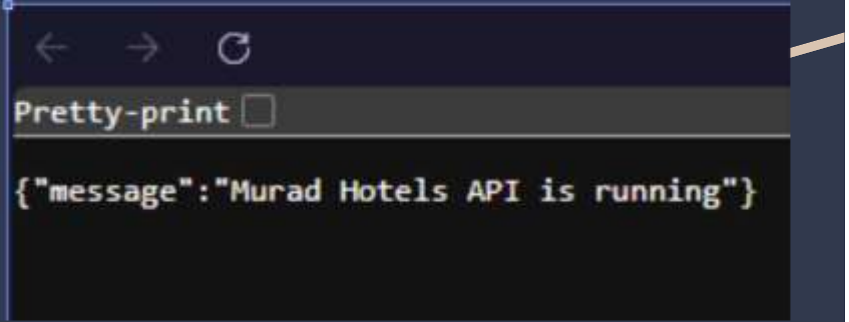
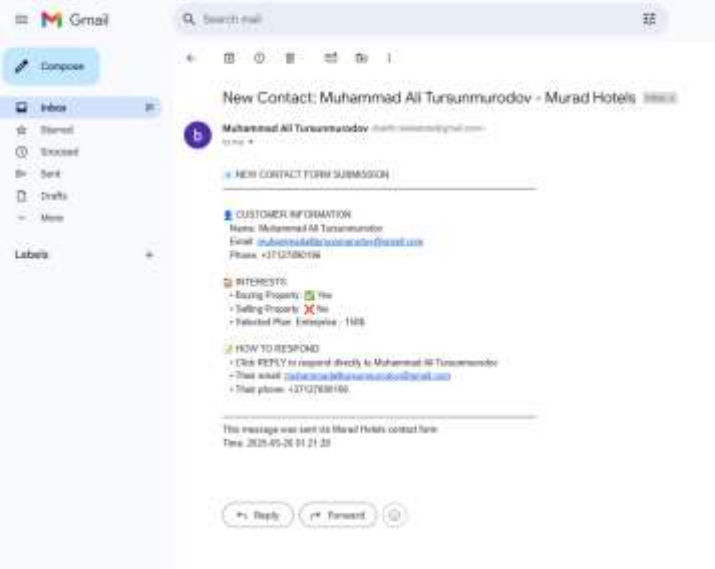


```
{"message":"Murad Hotels API is running"}
```



New Contact: Muhammad Ali Tursunmurodov - Murad Hotels

Muhammad Ali Tursunmurodov [illegible]
to me

NEW CONTACT FORM SUBMISSION

CUSTOMER INFORMATION
Name: Muhammad Ali Tursunmurodov
Email: [illegible]
Phone: +37127890196

INTERESTS:
- Buying Property: ✅ Yes
- Selling Property: ❌ No
- Selected Plan: Enterprise - 150$

HOW TO RESPOND
- Click REPLY to respond directly to Muhammad Ali Tursunmurodov
- Their email: [illegible]
- Their phone: +37127890196

This message was sent via Murad Hotels contact form
Time: 2025-05-26 01:21:20

Conclusion and Future prospects:

In this project, we successfully developed a functional and user-friendly real estate platform with appointment booking, responsive design, and backend integration.

We applied Agile principles, overcame technical and coordination challenges, and delivered a working prototype that met the client’s expectations.

Future prospects:

- Admin dashboard
- Property filtering and search
- User authentication and profiles
- Deployment to a live server with HTTPS and custom domain

Thank you for your attention!

Any questions?