Project Description

Smart City Web Platform for Digital Management and Visualization of Urban Services

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General Context

In modern cities, information about new shops, services, and urban innovations is often transmitted through informal or traditional channels such as neighbors, radio, or television. These methods are limited, non-centralized, and do not provide an interactive or up-to-date view of city development. At the same time, administrative procedures related to opening new shops or introducing new services are often slow and require citizens to physically visit municipal offices, submit paper documents, and wait for manual processing.

This situation creates inefficiencies for both citizens and municipal authorities, increases administrative workload, and limits transparency in urban development processes. In the context of Smart Cities, there is a growing need for digital platforms that improve communication between citizens, entrepreneurs, and local authorities while simplifying administrative workflows.

Identified Problem

The main problem addressed by this project is the **lack of a centralized digital platform for managing and communicating urban services and commercial activities**. Citizens do not have an easy way to visualize new shops or services in their city, and business owners face time-consuming administrative procedures when requesting authorization to open a shop or introduce a new service.

As a result:

- Information about city innovations is fragmented and difficult to access
- Municipal services rely on physical visits and paper documents
- Communication between business owners and municipal authorities is slow
- Administrative decision-making lacks transparency and traceability

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Proposed Solution

The proposed solution is a **web-based Smart City platform** that allows citizens to visualize new shops, services, and innovations in their city, while enabling business owners to submit digital requests to open shops or introduce new services. Municipal authorities, including the mayor and responsible staff, can review these requests, request additional documents if necessary, and approve or reject them directly through the application.

The platform uses a **map-based interface** where approved shops and services are manually positioned by municipal authorities to ensure accuracy and official validation. This approach avoids automatic satellite-based geolocation and ensures that all published information is reliable and administratively controlled.

Key Functionalities

Citizen Interface

The application allows citizens to:

- Visualize new shops and services in the city
- Browse urban services through an interactive city map
- Filter and search services by category or location
- Access detailed information about each shop or service

This improves transparency and keeps citizens informed about urban development.

Business Owner Interface

Business owners can:

- Submit online requests to open a shop or introduce a new service
- Provide required information and upload supporting documents
- Track the status of their requests in real time
- Communicate with municipal authorities through the platform

This significantly reduces the need for physical visits to the municipality and accelerates administrative procedures.

Municipal Authority Interface

The mayor and municipal staff can:

- Review incoming shop and service requests
- Request additional documents or clarifications
- Approve or reject requests digitally
- Add approved shops and services to the city map
- Manage categories and service types

This ensures structured, traceable, and efficient administrative decision-making.

Technical Architecture

The system is designed as a modern web application with a clear separation of concerns:

- **Frontend (Angular):**
  Provides an interactive and user-friendly interface, including forms for submissions, dashboards for request management, and a map-based visualization for urban services.
- **Backend (Spring Boot):**
  Manages business logic, user roles, request workflows, and validation through RESTful APIs.
- **Database (MongoDB):**
  Stores users, requests, documents, shop and service data using flexible schemas that can evolve with city needs.

Expected Benefits

By digitalizing urban service management, the platform aims to:

- Improve access to information for citizens
- Reduce administrative delays and physical paperwork
- Enhance transparency in municipal decision-making
- Facilitate communication between citizens, entrepreneurs, and authorities
- Support the digital transformation of city services

Conclusion

This project proposes a practical and realistic Smart City solution that focuses on **digital governance, citizen engagement, and administrative efficiency** rather than complex sensor-based systems. By centralizing information about urban services and simplifying shop authorization procedures through a web platform, the application contributes to a smarter, more connected, and more transparent city.