CSE 4408

System Analysis and Design

Lab 3: Project Management

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MedRadar

by team **CookiesAndCaches**

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Problem Definition

Key Issues

- Scattered and outdated information about medicine availability
- Patients waste time calling or visiting multiple pharmacies
- Lack of centralized platform for filtering pharmacies by location and stock
- No real-time updates on out-of-stock medicines

Problem Definition

Project Objectives

- Develop a system that allows location-based filtering of pharmacies
- Enable real-time visibility of medical stock in nearby stores
- Simplify user experience with intuitive search and filtering
- Integrate AI to suggest alternative medicine for patients.

Problem Definition

High-Level Requirements

- User authentication system
- Pharmacy and inventory management dashboards
- Location-based filtering and map integration
- Real-time stock updates and AI-powered suggestions
- Possible medicine order feature

Problem Definition

Constraints

- **Budget Limits**: Free-tier tools only; no premium API usage
- **Manual Updates**: Pharmacy stock may not sync automatically
- **Privacy Compliance:** No sensitive health data allowed
- **Skill Gaps:** Limited experience with APIs, AI, real-time features

Project Justification

Management Backing	• Organization should allow this system for students welfare
Appropriate Timing	• High demand during health/exam stress • New students need local pharmacy info
Strategic Goal Alignment	• Improves student health access • Encourages digital pharmacy adoption
Practicality	• MVP can be launched quickly • Cloud tools reduce cost and effort
Worthwhile Investment	• Saves time in finding medicine • Expandable to other campuses • Low-cost with free cloud services

Preliminary Feasibilty Assessment

Technical Feasibility

Technological Availability

- Google maps API
- Preferred Stack: MERN
- Readily available authentication tools

Skill+ Infrastructure Availability

- The student team is comfortable with web development; AI and cloud support via open tools

Potential Obstacles

- Lack of technical readiness from local pharmacies
- Unreliable inventory updates, risking outdated or inaccurate data
- Sustainability challenges if no long-term team maintains the system

Preliminary Feasibilty Assessment

Technical Feasibility

Hardware vs Cloud/SaaS

Why Cloud/SaaS?

- No physical servers needed
- Accessible from anywhere via APIs
- Scalable & low-cost—ideal for student projects
- Easier maintenance with auto-updates

Why not local hardware?

- Expensive and harder to maintain

Anticipated Deployment Challenges

- Pharmacy Onboarding
- Internet Dependency
- Staff Training
- Data Accuracy
- Maintenance and Scaling

Preliminary Feasibilty Assessment

Economic Feasibility

Tangible Benefits

- Reduces time and labor
- Faster Emergency Response
- Increased Pharmacy Sales
- Reduced Manual Errors
- Data-Driven Insights

Tangible Costs

- Development time (~90-100 Hours)
- Cloud Hosting and Database Costs
- Device/Internet Setup for Pharmacies
- Training and Onboarding
- Maintenance and Support

At this stage, benefits outweigh costs.
MedRadar addresses a critical need, is low-cost, scalable, and delivers high-impact value in time and efficiency.

Preliminary Feasibilty Assessment

Operational Feasibility

- **High likelihood of user acceptance**
  - Tech-savvy users
  - Pharmacy staff seeking process optimization
- **Fits into workflow**
  - Simple dashboards and live updates will enhance current process
- **Change Management**
  - Minimal resistance expected but smooth adoption still requires basic training and clear communication

Project Cost & Benefits

Tangible Benefits

- Saves users' time in finding medicines
- Faster emergency response
- Prevents sales loss from low visibility
- Enables future data-driven insights
- Generate revenue through order and sales from the pharmacy

Intangible Benefits

- Builds user trust in local pharmacies
- Pushes digital adoption for small businesses
- Strengthens platform reputation in community

Project Cost & Benefits

Tangible Costs

- Development time and effort.
- Domain registration and hosting.
- Maintenance time (debugging, feature updates).
- Future server/hosting fees.

Intangible Costs

- Limited experience with frameworks and tech stacks.
- Pharmacy resistance to digital shift
- Effort to keep inventory updated
- Data privacy concerns

High Level Budget Outline

Category	Description	Estimated Cost
Project Team	Team of 3 contributes 90+ hrs voluntarily	$0
Hardware	Not needed; uses cloud infrastructure	$0
Software	Built in free tool & Premium API kits (optional)	~$10-15 (optional)
Training	Simple + user-friendly UI; 5 hours demo based training per pharmacy	$0
Miscellaneuos	Deployment Costs, Visual polishing etc	~$10-15 (optional)

Thank you!

Feel free to ask any questions!