Assignment 4

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**Feasibility Study Report: “SafeRoute” – A Mobile Safety Navigation App  
  
1. Introduction**

Being safe when commuting is a top priority for people, especially when going through unknown   
  
places or late at night. SafeRoute is a proposed mobile application that uses AI-driven risk

analysis, user feedback, and crime data to provide real-time safety ratings for various routes.   
  
Students, commuters, and tourists will use this app to make well-informed choices regarding the   
  
safest ways to travel. In terms of technology, cost, legal issues, operations, and development   
  
timeframe, this feasibility study assesses the SafeRoute project's viability.  
  
**2. Objective of the Feasibility Study**

* To determine if developing SafeRoute is possible with available technology and   
    
  resources.
* To assess the economic and legal feasibility of launching such an app.
* To understand the operational challenges and schedule feasibility for implementation.
* To provide recommendations on whether SafeRoute is a viable project for students and   
    
  the generalpublic.

**3. Feasibility Analysis**

**3.1 Technical Feasibility**

* **Platform:** The app will be available for Android and iOS, built using Flutter or React   
    
  Native for cost-effective development.
* **Core Technologies:** Google Maps API for navigation, crime data APIs for real-time   
    
  reports, AI-based risk assessment, and Firebase for user authentication and cloud   
    
  storage.
* **Development Team:** A small student-friendly team of developers and designers can   
    
  build the app within 6-7 months.
* **Scalability:** The app can start as a university-based safety tool and later expand to other   
    
  regions.
* **Risk Factors:** Accuracy of data depends on government crime databases and communit

reporting.

**Conclusion:** The project is technically feasible using available tools and mobile development   
  
platforms.

**3.2 Economic Feasibility**

* **Development Cost Estimate:**  
  + Development Team: $5,000 (if built as a student project)
  + Hosting and Database Services (first year): $1,500
  + Marketing (targeted at students): $1,000
  + **Total:** ~$7,500 initial investment (lower if developed as an academic project)
* **Revenue Model:**  
  + Free basic version for students
  + Premium features (live alerts, AI-based route recommendations) for a small   
      
    monthly fee
  + University partnerships for funding and sponsorships
* **Return on Investment (ROI):**  
    
  Since safety is a major concern, universities and local governments may support or fund   
    
  the app, helping it reach sustainability within a year.

**Conclusion:** Economically feasible, especially if supported by institutions or grants.

**3.3 Legal Feasibility**

* **Privacy Compliance:** The app must follow GDPR and CCPA rules since it handles user   
    
  location data.
* **Data Accuracy & Liability:** Users must accept disclaimers that SafeRoute is a guidance   
    
  tool, not an absolute safety guarantee.
* **User Privacy:** Data encryption and anonymous reporting features will ensure privacy   
    
  protection.

**Conclusion:** Legally feasible if data privacy laws are strictly followed.

**3.4 Operational Feasibility**

* **User Support:** A student support team can handle FAQs, with AI chatbots for instant   
    
  responses.
* **Maintenance:** Updates to include new crime reports, user feedback, and improved AI-  
    
  based route safety analysis.
* **Adoption:** Students, daily commuters, and university security teams will benefit the most   
    
  from this app.

**Conclusion:** Operationally feasible if universities or student groups help promote adoption.

**3.5 Schedule Feasibility**

* **Estimated Timeline:**  
  + Planning & Design: 1.5 months
  + Development: 4 months
  + Testing & QA: 1.5 months
  + Launch & Promotion: 1 month
* **Total Time:** 7-8 months, making it ideal for a student project timeline.

**Conclusion:** The project can be developed within a reasonable time frame for students.

**4. Key Risks and Mitigation**

|  |  |
| --- | --- |
| **Risk** | **Mitigation Strategy** |
| Inaccurate or outdated crime data | Regular updates from official sources and user reporting verification |
| Privacy concerns | Strong encryption and clear privacy policies |
| Low adoption rate | Partner with student organizations and universities to increase awareness |

**5. Recommendation**

The creation of the SafeRoute mobile application is strongly advised in light of this feasibility   
  
study. The project is technically feasible, economical, compliant with the law, and useful for   
  
both students and the broader public. SafeRoute has the potential to be a useful addition to   
  
campus safety programs because it benefits students, local authorities, and universities.

**6. Conclusion**

SafeRoute is a potential initiative, particularly for student populations, according to the   
  
feasibility study's findings. SafeRoute may function as a dependable safety navigation tool for   
  
both urban travelers and students by guaranteeing precise data collecting, privacy protection, and   
  
user-friendliness.