



Renovation and Design Service App

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Introduction

- **"Renovation and Design App"** is a **Django-based platform** that simplifies **renovation and interior design** by connecting users with **contractors and designers**. It ensures a **transparent, efficient, and personalized** experience for managing projects.
- Find & book contractors and interior designers.
- Role-based access (Admin, Contractor, Designer, User).
- Machine Learning-based cost prediction.
- Future expansion for material supplier integration.
- This app enhances **service selection, cost efficiency, and project tracking**, making renovation hassle-free!

Hardware Requirements

Component	Minimum Requirement	Recommended Requirement
Processor	Intel Core i3 (or AMD equivalent)	Intel Core i5/i7 (or AMD Ryzen 5/7)
RAM	4GB	8GB or more
Storage	20GB free space (for development)	SSD with 50GB+ free space
Graphics Card	Integrated GPU (for basic UI)	Dedicated GPU (NVIDIA/AMD for ML tasks)
Operating System	Windows 10 / Linux / macOS	Latest Windows/Linux/macOS
Network	Stable internet connection	High-speed broadband

Software Requirements

- **Front End:** Django (HTML, CSS, JavaScript)
- **Back End:** Python (Django)
- **Database:** SQLite (db.sqlite3)
- **Machine Learning Framework:** Deep Learning (CNN - Convolutional Neural Networks)

Modules

- Admin
- User
- Designer
- Contractor

Admin

- **Login:** Secure authentication for admin access.
- **Manage Users:** Admins can manage accounts of Contractors, Interior Designers, and Users.
- **Approve or Reject Contractors & Interior Designers:** Verify applications by reviewing credentials and granting or denying platform access.
- **Manage Bookings:** Oversee and monitor service bookings between users and professionals.
- **View Feedback:** Review feedback provided by users on contractors and interior designers for quality assurance.

User

- **Register & Login:** Users can create an account and log in securely.
- **Browse & Select Services:** Explore contractors and interior designers based on experience, ratings, and cost.
- **Machine Learning-Based Cost Prediction:** Get an estimated renovation cost using Deep Learning (CNN) based on input parameters like area and materials.
- **Book Professionals:** Schedule appointments with contractors or interior designers.
- **Secure Payment:** Make online payments for services through integrated payment gateways.
- **Track Project Progress:** Monitor ongoing renovations and designs.
- **Provide Feedback & Ratings:** Share reviews and rate professionals based on service quality.

Designer

- **Register & Login:** Designers can create an account and log in securely
- **Profile Management:** Update portfolio, expertise, and pricing details.
- **Manage Bookings:** Accept or decline user requests for design services.
- **View & Respond to User Inquiries:** Communicate with users regarding design preferences and requirements.
- **Machine Learning-Based Cost Prediction:** Get an estimated renovation cost using Deep Learning (CNN) based on input parameters like area and materials.
- **Receive Payments:** Secure transactions through integrated payment gateways.
- **View Feedback:** Check user reviews and improve services accordingly.

Contractor

- **Register & Login:** Contractors can create an account and log in securely.
- **Profile Management:** Update portfolio, expertise, and pricing details.
- **Manage Bookings:** Accept or decline user requests for renovation services.
- **View & Respond to User Inquiries:** Communicate with users regarding project requirements.
- **Machine Learning-Based Cost Prediction:** Get an estimated renovation cost using Deep Learning (CNN) based on input parameters like area and materials.
- **Receive Payments:** Secure transactions through integrated payment gateways.
- **View Feedback:** Check user reviews and improve services accordingly.

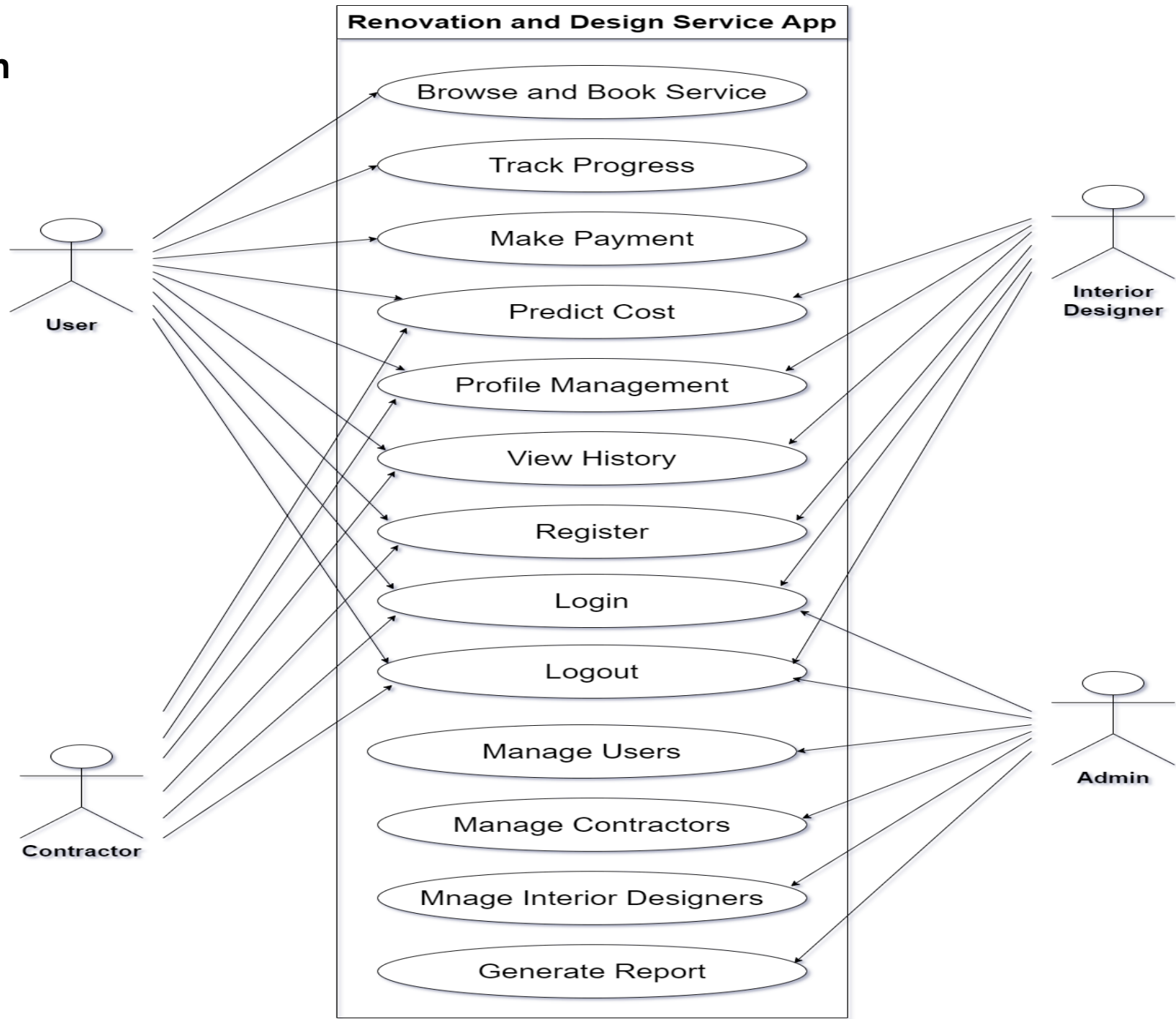
Machine Learning Module

- **Machine Learning-Based Cost Prediction:** Estimates renovation costs using Deep Learning (CNN) based on input parameters like area, materials, and design preferences.
- **Real-Time Cost Estimation:** Provides instant cost predictions to help users plan their budgets effectively.

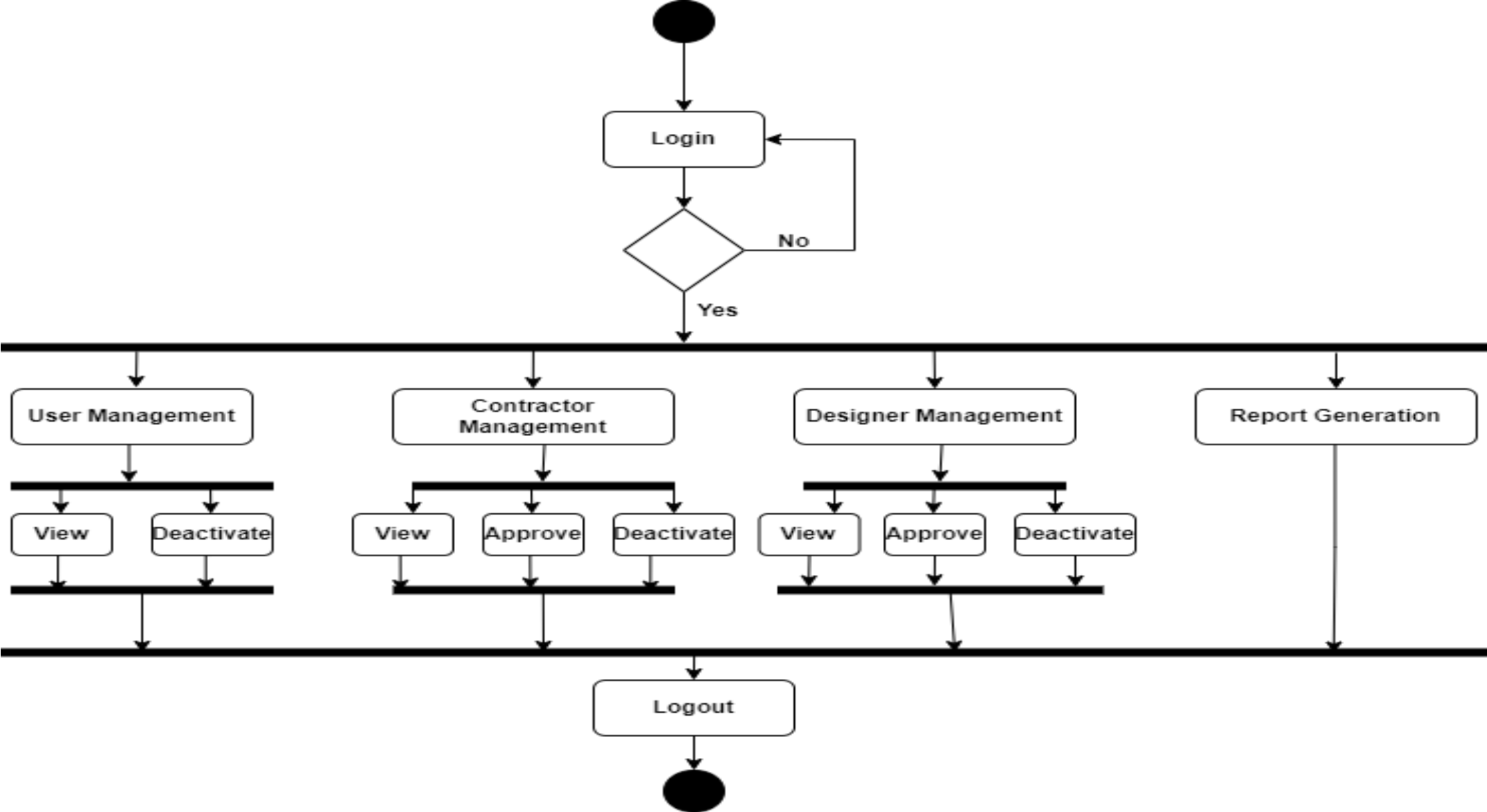
UML Diagrams

- Use Case Diagram
- Activity Diagram
- Sequence Diagram
- Class Diagram

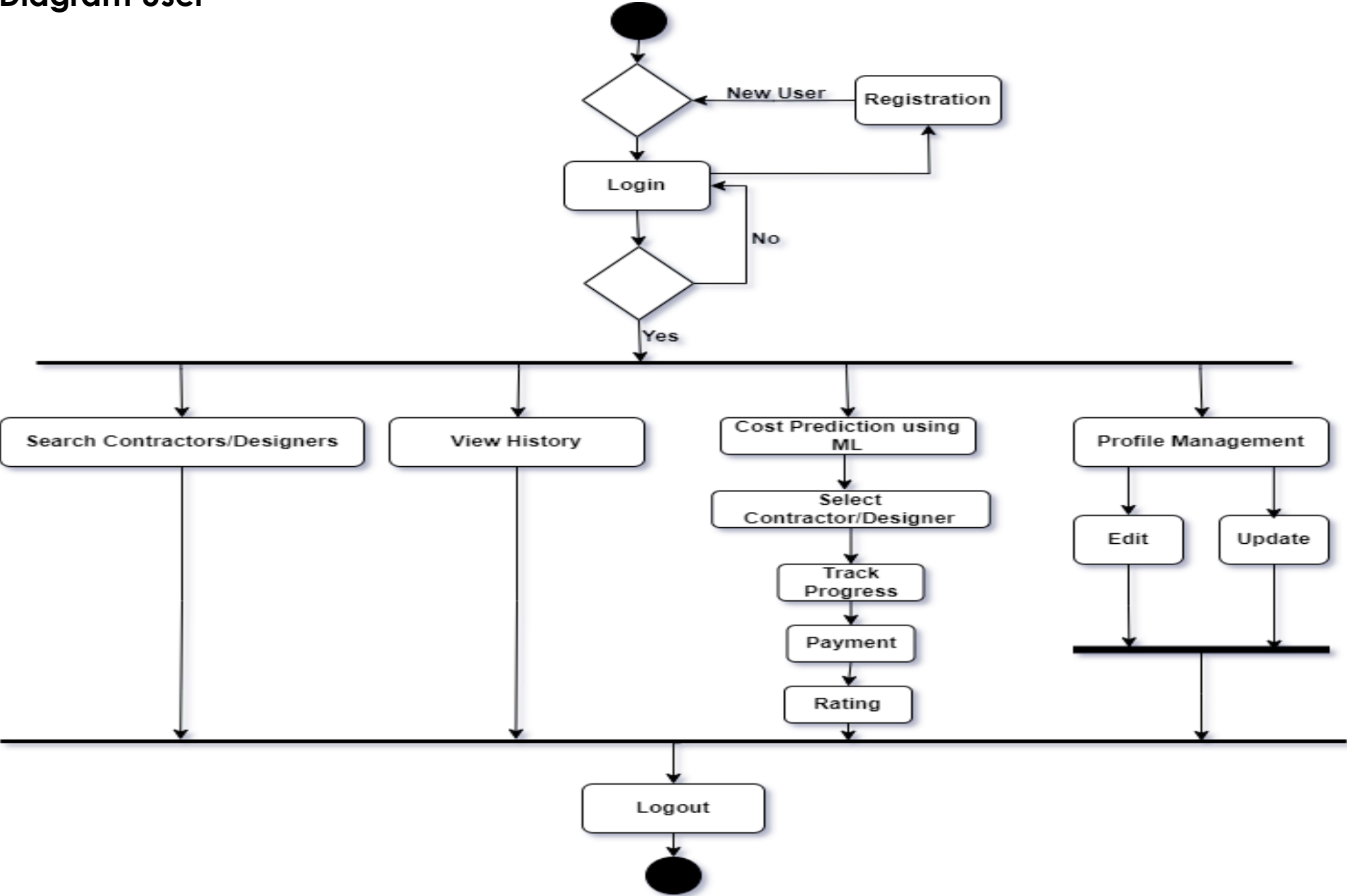
Use Case Diagram



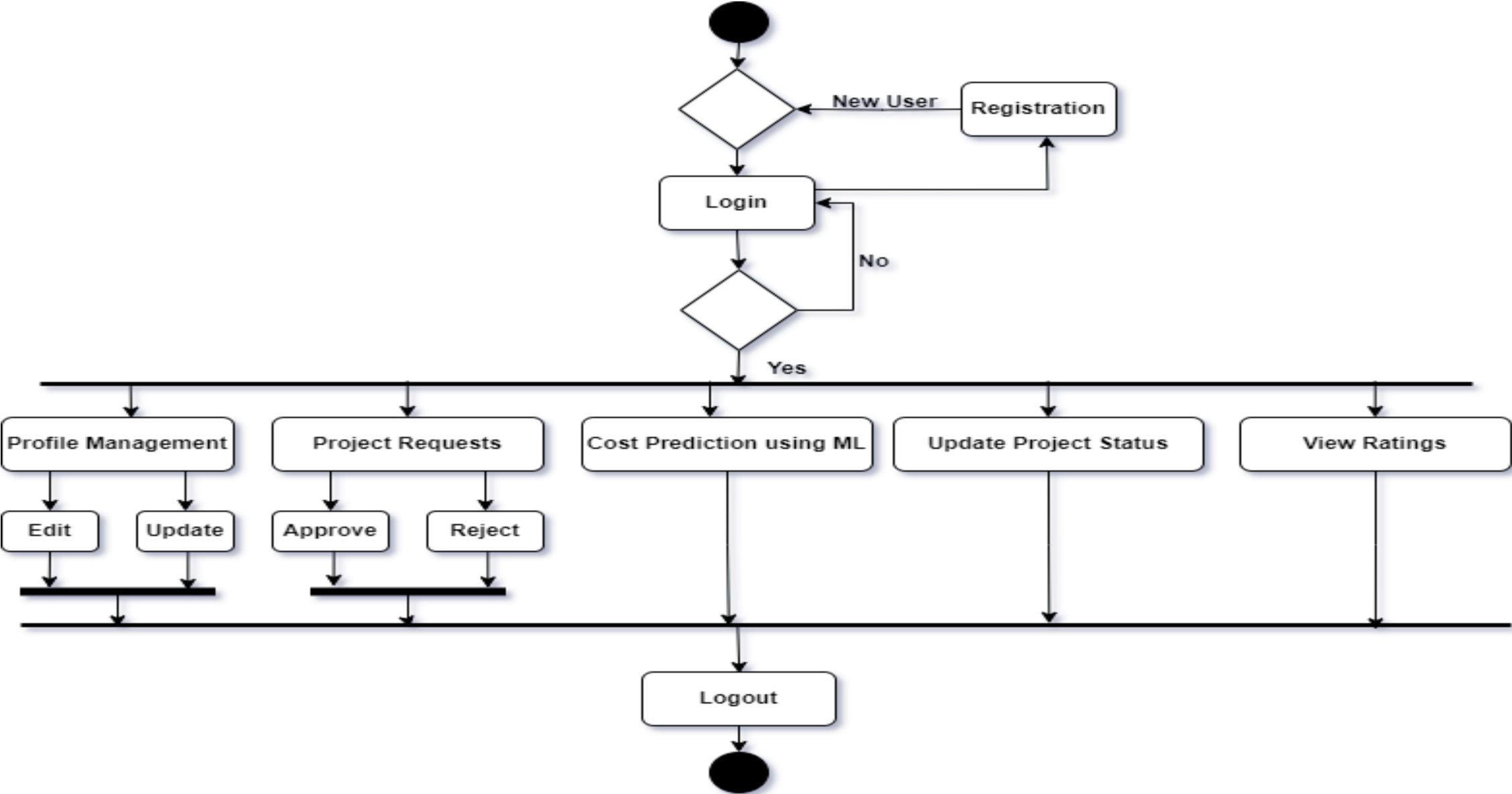
Activity Diagram Admin



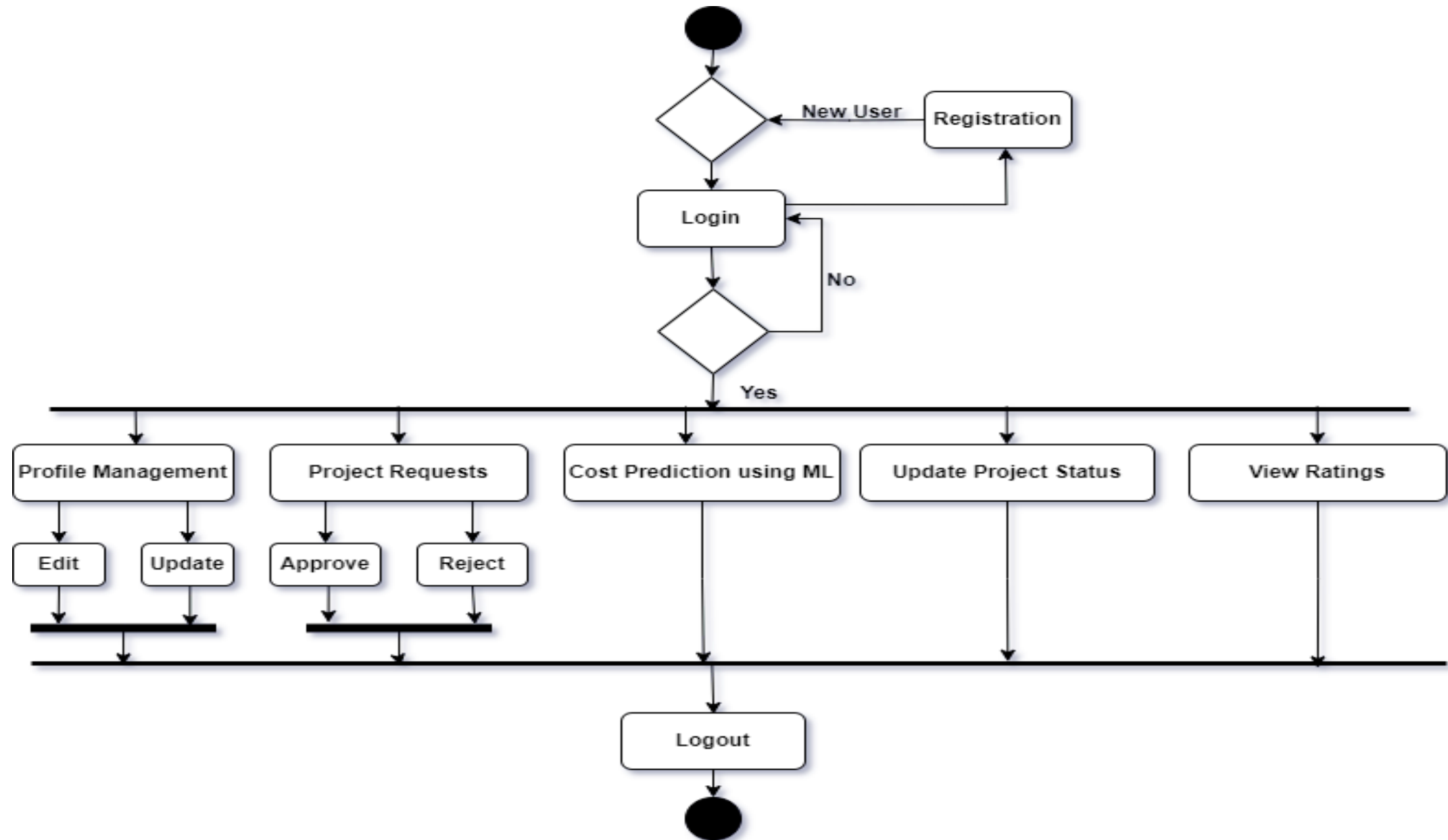
Activity Diagram User



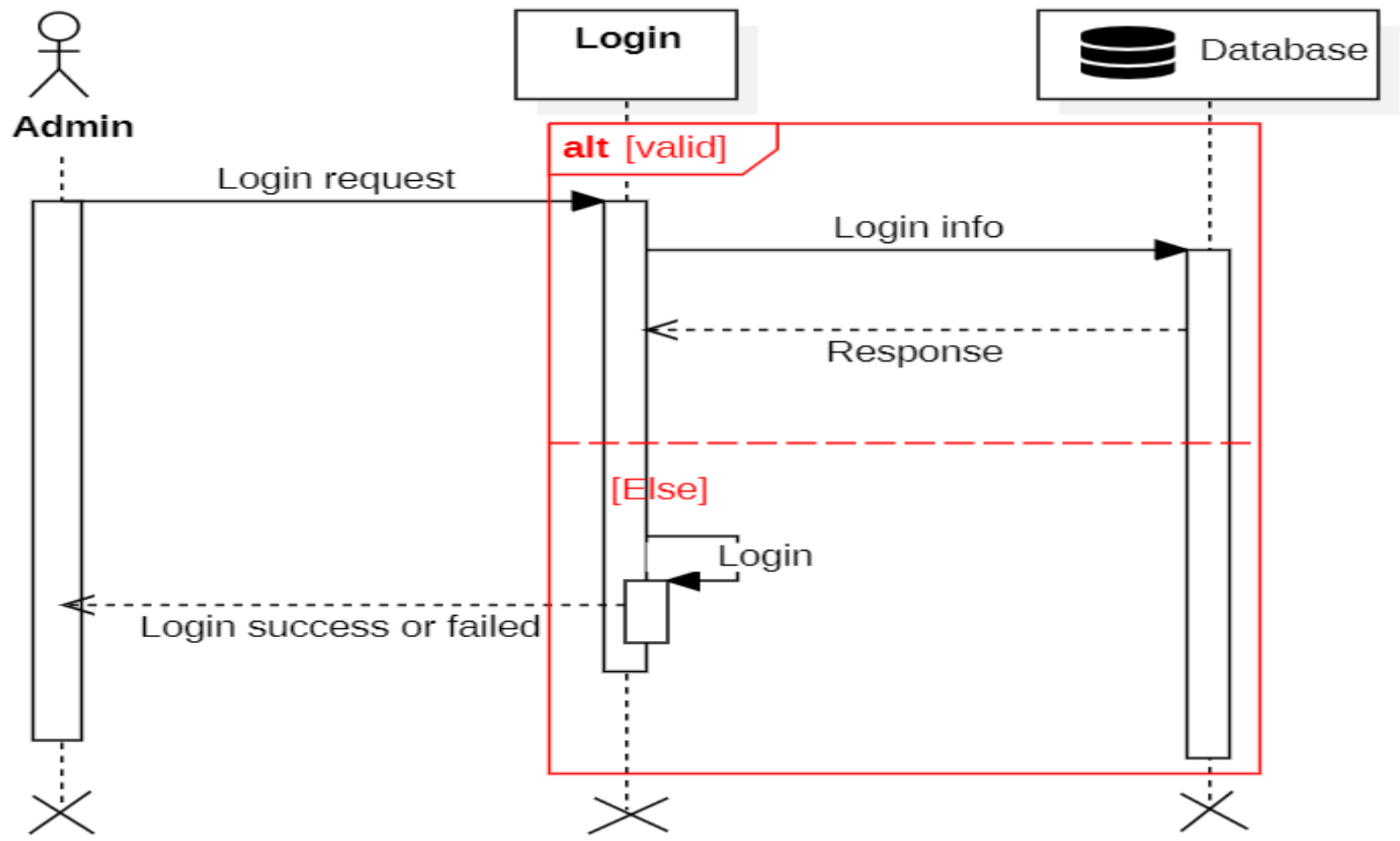
Activity Diagram Designer



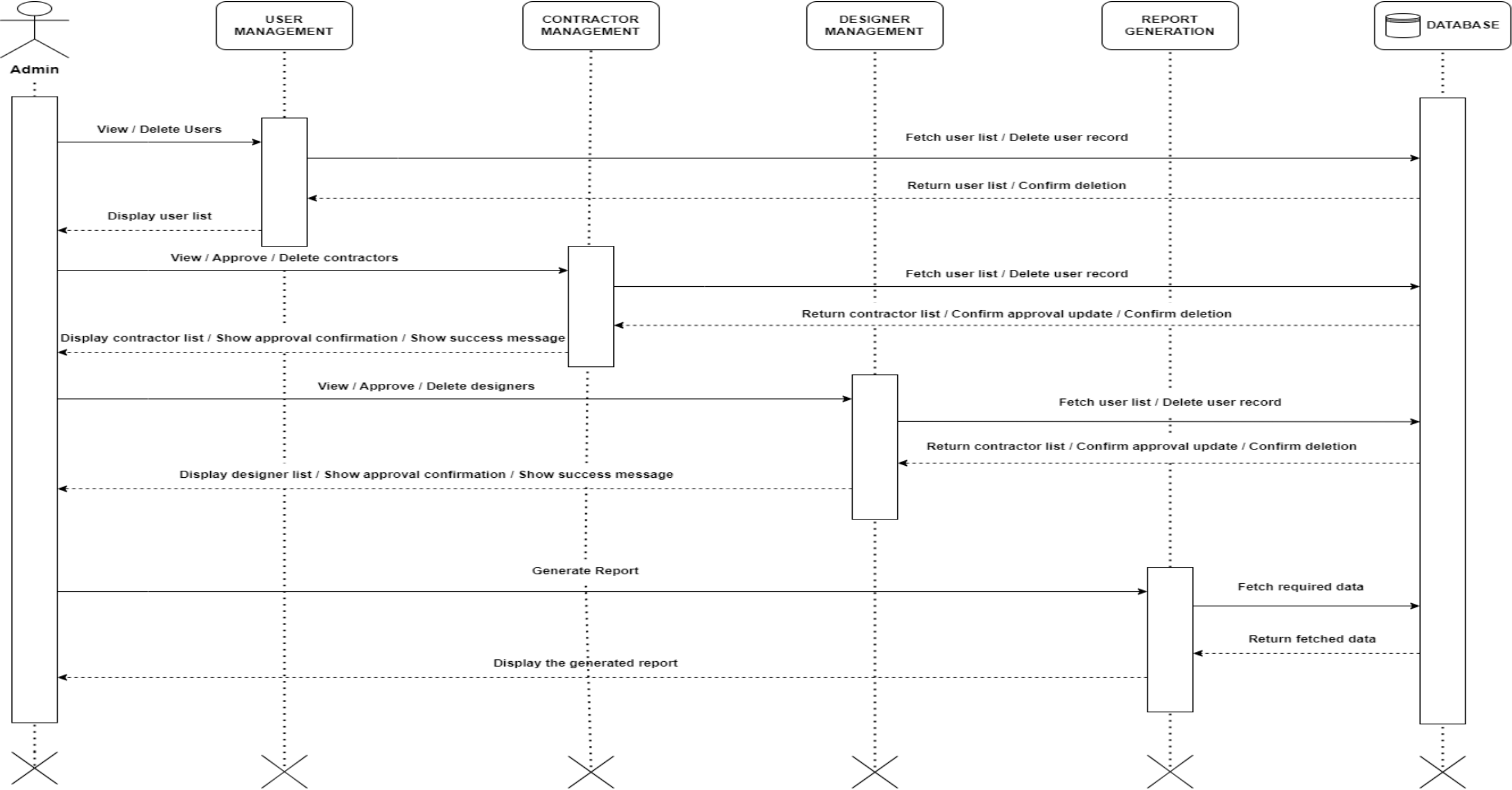
Activity Diagram Contractor



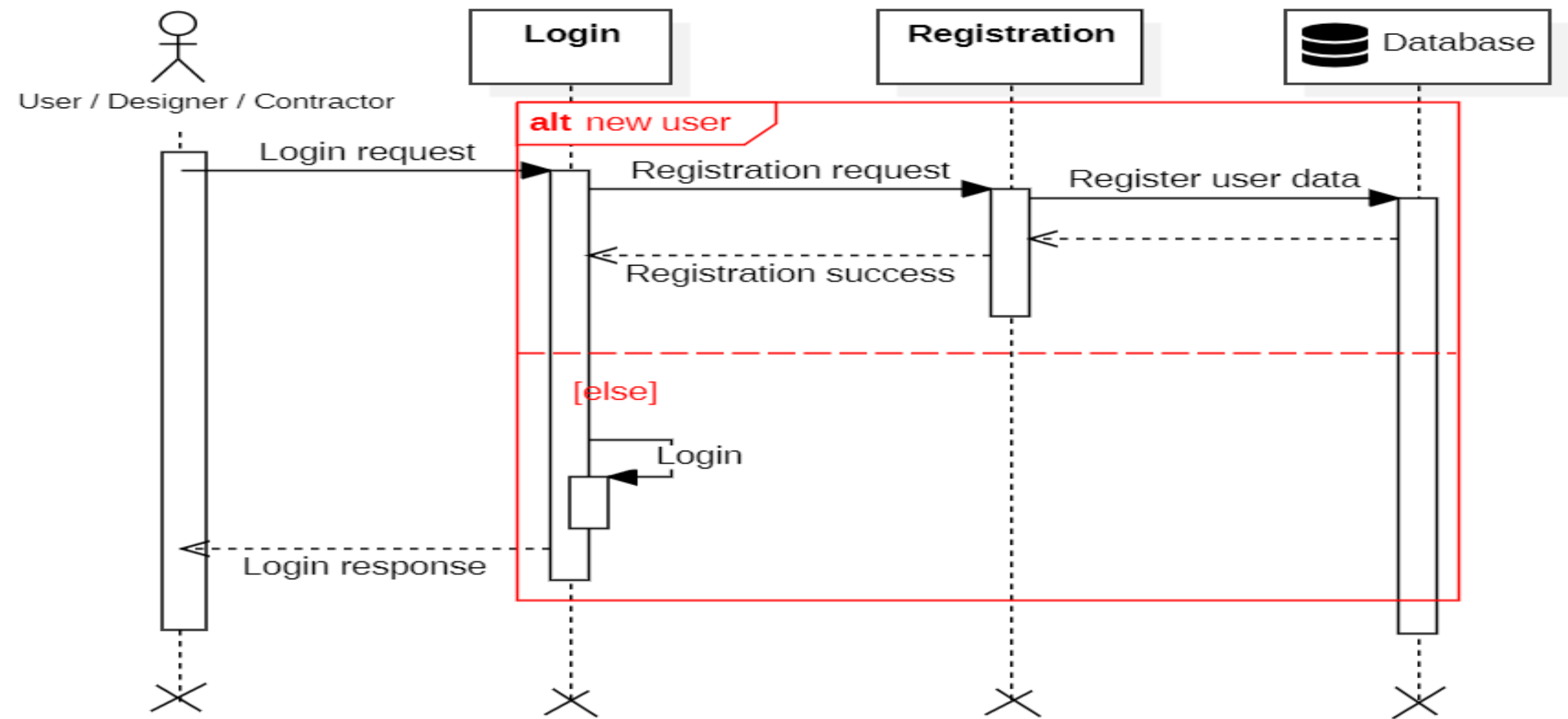
Sequence Diagram Admin (Login)



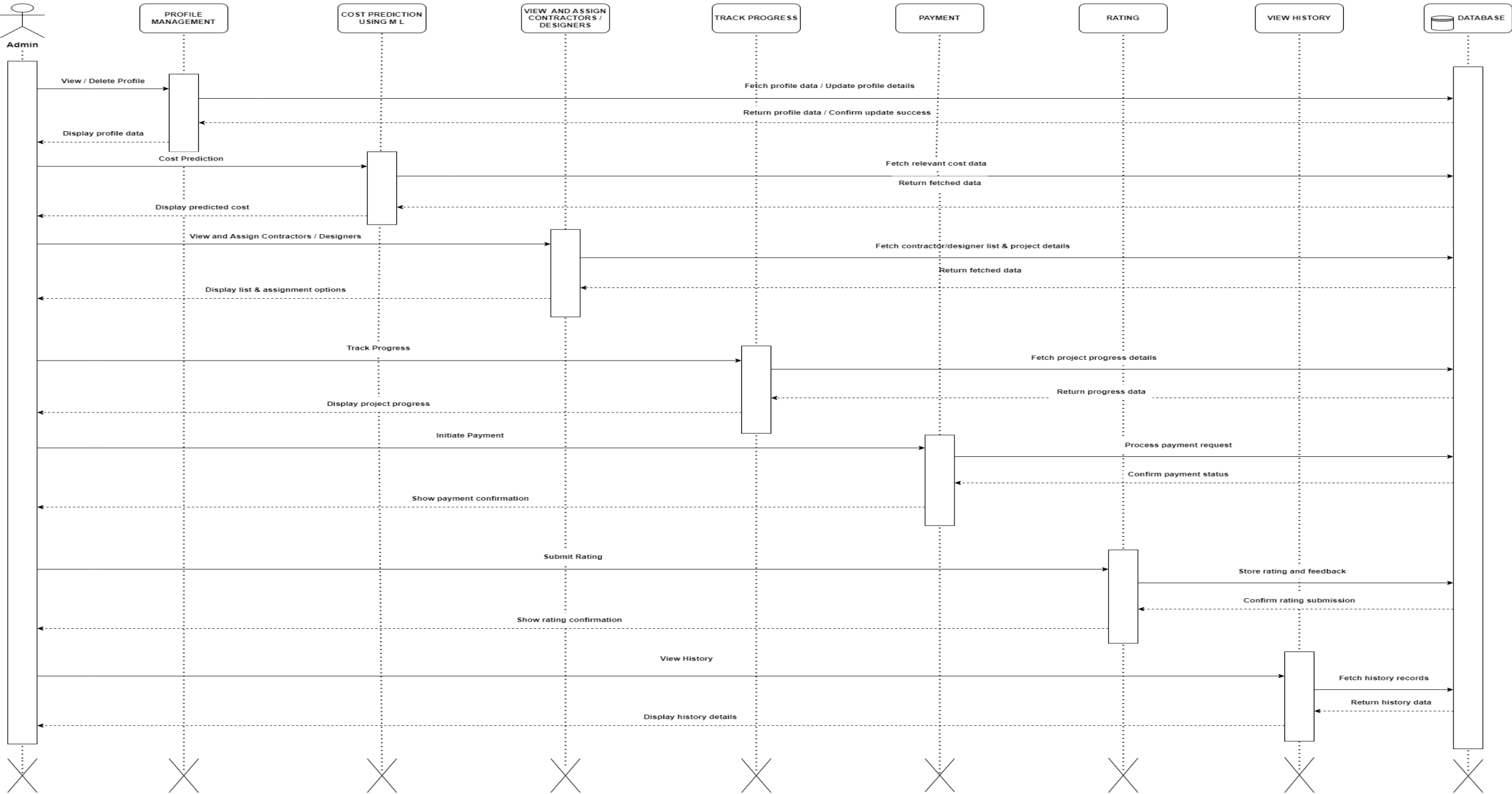
Sequence Diagram Admin



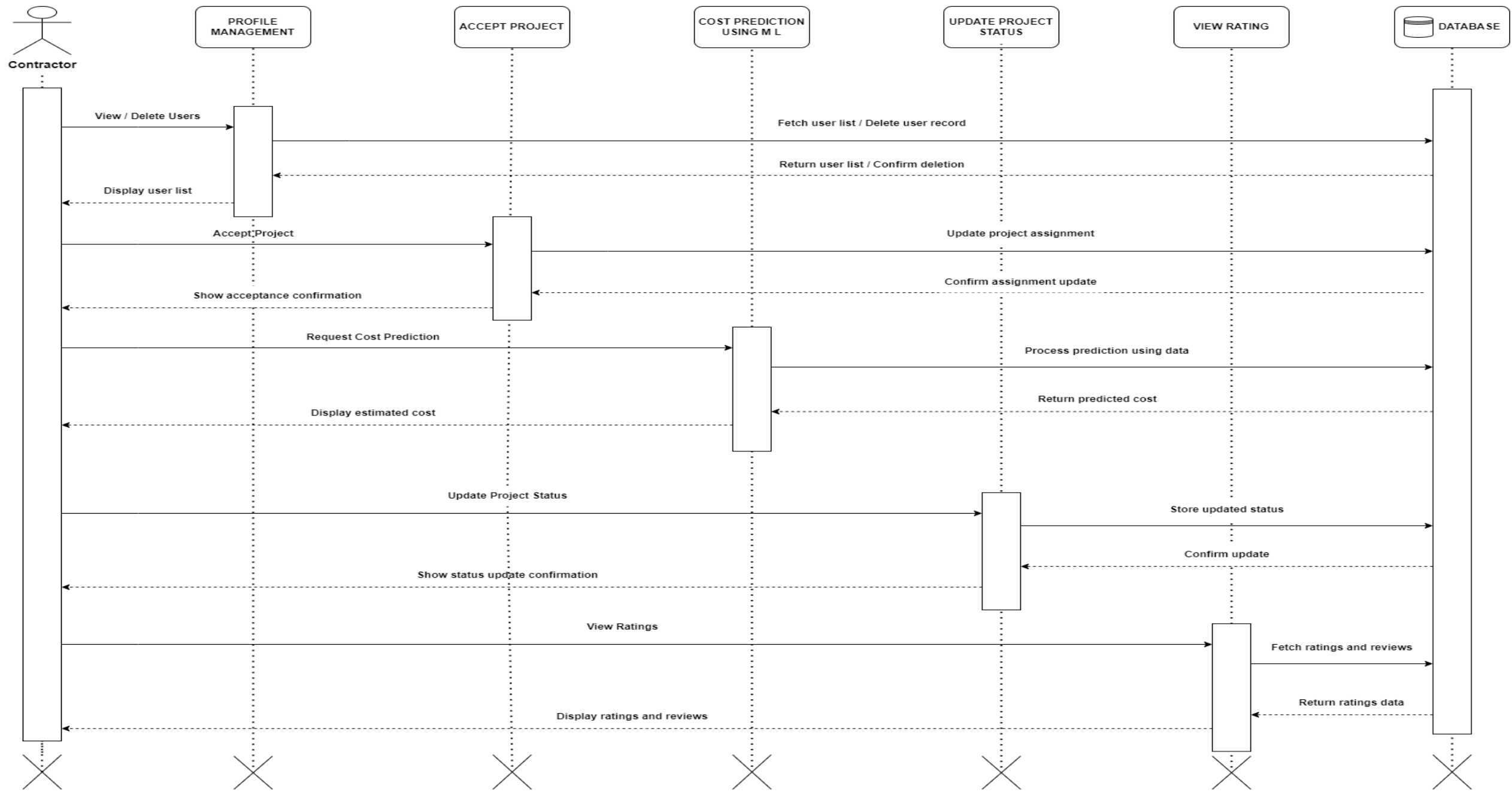
Sequence Diagram Login and Registration (User, Designer, Contractor)



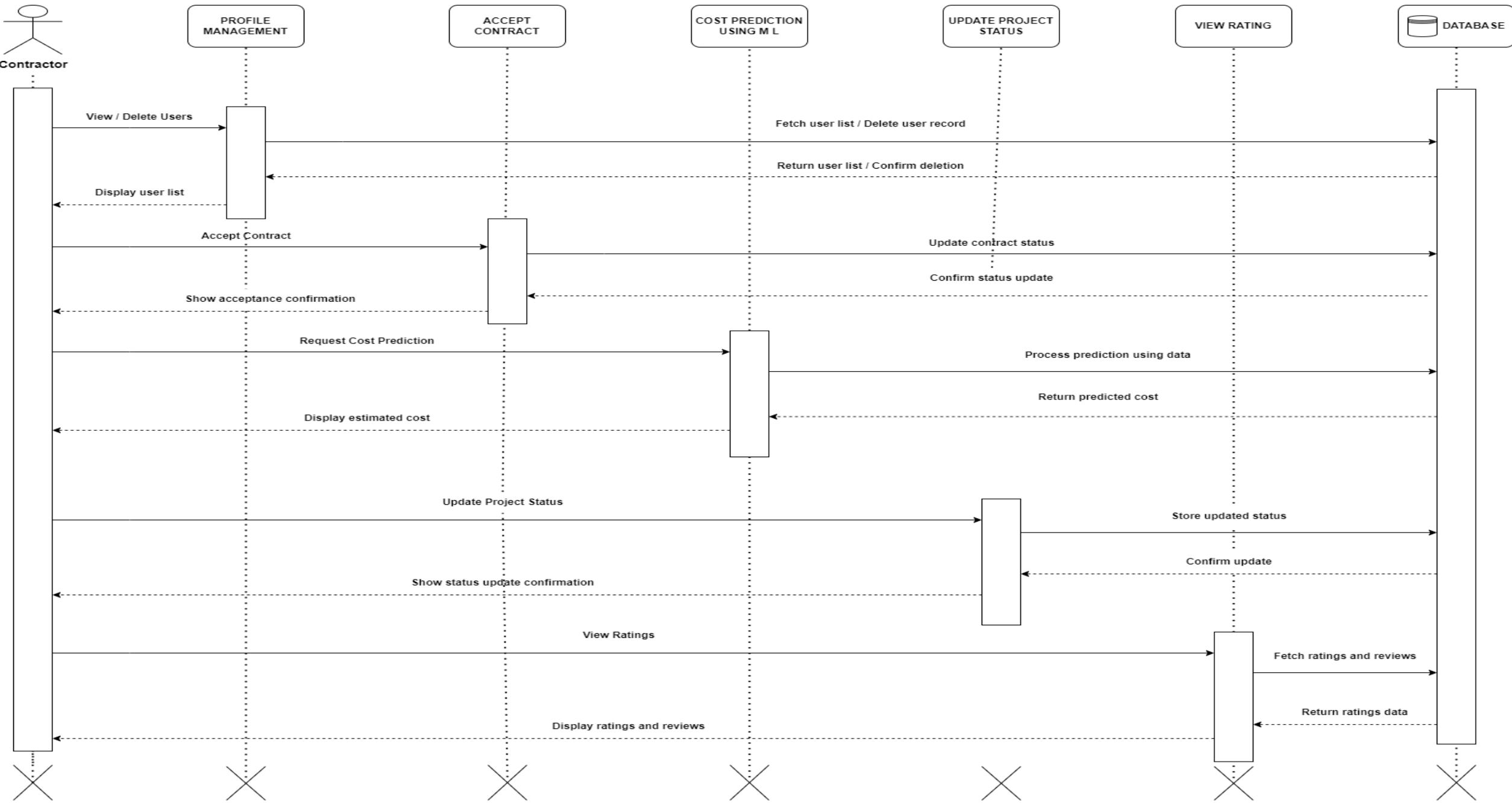
Sequence Diagram User



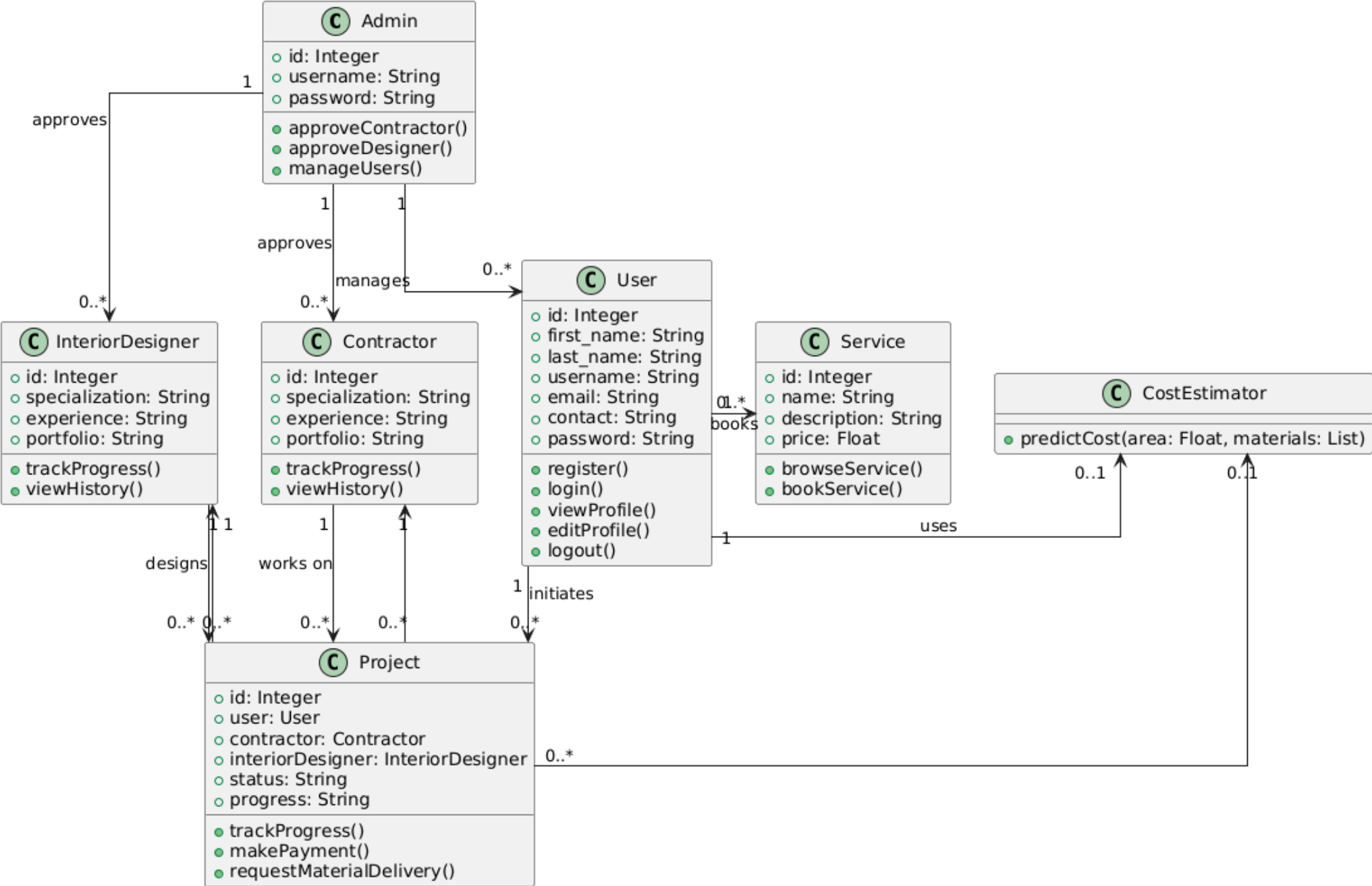
Sequence Diagram Designer



Sequence Diagram Contractor



Class Diagram



Future Enhancements

- **AI-powered design suggestions** for personalized recommendations
- **Augmented Reality (AR) previews** to visualize designs before implementation
- **Real-time material price comparison** for cost-effective purchases
- **Mobile app version** for better accessibility and user experience

Conclusion

The **Renovation and Design App** streamlines the renovation process by connecting users with contractors and interior designers while integrating AI-powered cost estimation and design recommendations. With features like real-time project tracking, service booking, and future enhancements such as AR previews and material price comparison, the platform ensures a seamless and efficient experience. Continuous improvements and advanced technologies will further enhance user satisfaction and industry efficiency.

Thank You