

FILMATRIX

PROJECT THESIS

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DEGREE

OF

Master Of Computer Applications

BY

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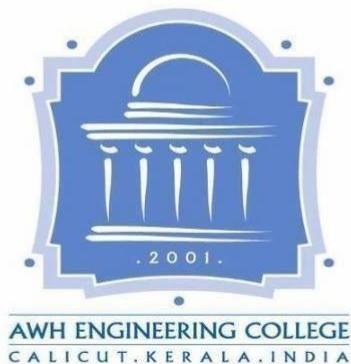
DEPARTMENT OF COMPUTER APPLICATIONS

AWH ENGINEERING COLLEGE KUTTIKKATTOOR,

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DEPARTMENT OF COMPUTER APPLICATIONS



AWH ENGINEERING COLLEGE KOZHIKODE

CERTIFICATE

*This is to certify that this thesis entitled “**FILMATRIX**” submitted herewith is an authentic record of the thesis work done by **NIRANJAN BABU (AWH22MCA-2028)** under our guidance in partial fulfillment of the requirements for the award of Master of Computer Applications from APJ Abdul Kalam Technological University during the academic year 2023.*

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NIRANJAN BABU

ABSTRACT

“Filmatrix” introduces a web platform designed to enhance collaboration within the film industry. Film Companies can announce projects, and interested parties have the option to participate as collaborators. The platform streamlines collaboration among relevant stakeholders, facilitating a smoother production process. Additionally, the platform opens opportunities for users to explore film announcements and apply for relevant roles, emphasizing simplicity and efficiency to improve accessibility in the film production ecosystem. By providing a user-friendly interface and optimizing collaboration, this platform aims to contribute to a more efficient and inclusive film production landscape.

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INTRODUCTION

1. INTRODUCTION

In the fast-paced world of film production, collaboration is key. Yet, navigating the intricate web of connections and opportunities can often prove daunting. Enter "Filmatrix" – a groundbreaking web platform engineered to revolutionize collaboration within the film industry. At its core, "Filmatrix" serves as a dynamic hub where film companies can effortlessly announce projects, while potential collaborators, from actors to crew members, can seamlessly express interest and participate. This streamlined approach not only fosters smoother production processes but also cultivates a vibrant community of creative professionals.

One of the defining features of "Filmatrix" is its emphasis on simplicity and efficiency. By offering a user-friendly interface, the platform ensures accessibility for all, regardless of experience level or background. Gone are the days of cumbersome searches and missed opportunities – with "Filmatrix," discovering exciting projects and applying for relevant roles has never been easier. Moreover, "Filmatrix" doesn't just connect individuals – it transforms the very landscape of film production. Through its innovative approach, the platform opens doors to new talent and diverse voices, fostering a more inclusive industry ecosystem.

Central to the "Filmatrix" experience is its commitment to empowering users. Whether you're a seasoned filmmaker or an aspiring actor, the platform provides the tools and resources needed to thrive in an ever-evolving industry. From job management to location booking, "Filmatrix" puts the power in the hands of its users, ensuring greater autonomy and control throughout the production process. Ultimately, "Filmatrix" represents more than just a platform – it's a catalyst for change. By reimagining collaboration in the film industry, "Filmatrix" aims to usher in a new era of creativity, efficiency, and inclusivity.

SYSTEM ANALYSIS

2. SYSTEM ANALYSIS

2.1 Existing system

In the current landscape of the film industry, the process of setting a hiring partner is often a manual endeavor. Traditionally, film companies would rely on established relationships with familiar agencies, assigning them the task of sourcing talented technicians for their cast and crew. However, this method is not without its drawbacks. The process is time-consuming, requiring extensive research and coordination to ensure the right fit for each project. Moreover, the reliance on personal connections may limit the pool of available talent, hindering diversity and innovation within the industry.

Furthermore, the dissemination of job vacancies has historically been fragmented, with companies resorting to various communication channels such as WhatsApp and other mediums to reach potential collaborators. This decentralized approach not only complicates the recruitment process but also makes it challenging for aspiring professionals to discover relevant opportunities. Moreover, the absence of a dedicated platform exacerbates these challenges, leaving filmmakers without a centralized hub to connect with potential hiring partners, workers, and shooting locations. As a result, valuable time and resources are squandered navigating a disjointed landscape, impeding the efficiency and growth of the industry as a whole.

In this environment, "Filmatrix" emerges as a transformative solution, addressing these longstanding pain points with its innovative approach to collaboration. By providing a comprehensive platform where film companies can easily connect with hiring partners, workers, and shooting locations, "Filmatrix" streamlines the entire process, reducing the time and effort required to bring projects to fruition. Additionally, its user-friendly interface and robust features empower filmmakers to expand their networks, discover new talent, and access a wider range of opportunities, ultimately fostering a more dynamic and inclusive film ecosystem.

The existing system has several disadvantages:

- Limited reach.
 - Difficulty in location booking .
-

2.2 Proposed system

The proposed system, "Filmatrix," stands as a transformative force within the film industry, poised to overhaul traditional methods of collaboration and production. With a focus on user-friendliness and efficiency, "Filmatrix" offers filmmakers a streamlined platform to curate their ideal cast and crew effortlessly. By centralizing movie announcements from production companies, the platform provides aspiring professionals with unparalleled access to a diverse range of opportunities, fostering transparency and accessibility in the hiring process.

At the heart of "Filmatrix" lies its comprehensive job management tools, which revolutionize the recruitment process for both filmmakers and applicants. From submitting applications to scheduling auditions and interviews, every aspect of hiring is meticulously organized and managed within the platform, saving valuable time and minimizing administrative burdens. Additionally, "Filmatrix" offers a sophisticated solution for location booking, empowering filmmakers to secure the perfect settings for their productions with ease. With an extensive database of available locations and streamlined booking processes, the platform ensures a seamless experience for all parties involved.

Crucially, the management of these critical tasks is entrusted to a dedicated hiring team, carefully selected by filmmakers through the "Filmatrix" web application. These experts serve as the backbone of the production process, overseeing job postings, reviewing applications, and coordinating logistics to ensure smooth operations from pre-production to post-production. In essence, "Filmatrix" represents a groundbreaking fusion of technology and creativity, empowering storytellers to realize their visions with unprecedented ease and efficiency, thereby shaping the future of filmmaking for generations to come.

The proposed system has several advantages:

- Streamlined collaboration.
- Enhanced accessibility.
- Increased efficiency.

2.3 Module Description

This project has 5 modules:

Admin:

- Login
- Manage film company
- Manage hiring team
- Manage location owner
- View accepted job seekers
- View announcement
- View locations

Film company:

- Register
- Login
- View and edit profile
- Add and view film announcements
- Manage hiring team request
- View film progress
- View location
- Manage location booking request
- View location booking status
- View approved job seekers
- Add hiring team feedback

Hiring team:

- Register
- Login
- View and edit profile
- View film announcements
- Send hiring request
- View hiring request status
- View locations
- Send location booking request to film company

- View location booking response
- Do payment and book location
- View location booking status
- Add location feedback
- Add job vacancies
- Manage job request
- View previous works
- Add and view film progress
- View feedback from film company

Location owner:

- Register
- Login
- View and edit profile
- View film announcement
- Add locations
- View payment
- Manage location booking request
- View bookings
- View location feedback

Job seekers:

- Register
- Login
- View and edit profile
- View film announcements
- View job vacancies
- Apply for job
- View job request status
- Add and view previous works

2.4 Sprint

Sprint 1

Module	Task	Hours for completion	Expected date of completion	Actual date of completion	Reason for Deviation
Admin/Film company/ Hiring team/ Location owner/Job seekers	Login	8 hours	29/01/2024	29/01/2024	
Admin	Manage Film company	8 hours	30/01/2024	30/01/2024	
	Manage Hiring team	8 hours	31/01/2024	31/01/2024	
	Manage Location owner	8 hours	01/02/2024	01/02/2024	
	View accepted job seekers	8 hours	02/02/2024	02/02/2024	
	Manage location adding request	8 hours	03/02/2024	03/02/2024	
	View film announcement	8 hours	05/02/2024	05/02/2024	
	View locations	8 hours	06/02/2024	06/02/2024	
	Manage film category	8 hours	07/02/2024	07/02/2024	
	Validation	8 hours	08/02/2024	08/02/2024	

Sprint 2

Module	Task	Hours for completion	Expected date of completion	Actual date of completion	Reason for Deviation
Film company	Registration	6 hours	12/02/2024	12/02/2024	
	Manage profile	5 hours	13/02/2024	13/02/2024	
	Manage film announcement	6 hours	14/02/2024	14/02/2024	
	Manage hiring team request	6 hours	15/02/2024	15/02/2024	
	View film progress	5 hours	16/02/2024	16/02/2024	
	View location	5 hours	17/02/2024	17/02/2024	
	Manage location booking request	5 hours	19/02/2024	19/02/2024	
	View approved job seekers	5 hours	20/02/2024	20/02/2024	
	Add hiring team feedback	5 hours	21/02/2024	21/02/2024	
	Validation	6 hours	22/02/2024	22/02/2024	
Hiring team	Registration	6 hours	26/02/2024	26/02/2024	
	Manage profile	5 hours	27/02/2024	27/02/2024	
	View film announcement	5 hours	28/02/2024	28/02/2024	
	Send hiring request	5 hours	01/03/2024	01/03/2024	
	Add and view film progress	5 hours	02/03/2024	02/03/2024	

Sprint 3

Module	Task	Hours for completion	Expected date of completion	Actual date of completion	Reason for Deviation
Hiring team	View locations	5 hours	06/03/2024	06/03/2024	
	Sent location booking request	5 hours	11/03/2024	11/03/2024	
	View locations boking response	5 hours	13/03/2024	13/03/2024	
	Payment	6 hours	15/03/2024	15/03/2024	
	Book location	6 hours	16/03/2024	16/03/2024	
	View location booking status	5 hours	18/03/2024	18/03/2024	
	Add location feedback	6 hours	20/03/2024	20/03/2024	
	Add job vacancies	6 hours	22/03/2024	22/03/2024	
	Manage job request	6 hours	23/03/2024	23/03/2024	
	Manage hiring team previous works	6 hours	25/03/2024	25/03/2024	
	View feedback	6 hours	26/03/2024	26/03/2024	
	Add previous works	6 hours	27/03/2024	27/03/2024	
	View job seeker's previous works	6 hours	28/03/2024	28/03/2024	
	Validation	6 hours	28/03/2024	28/03/2024	

Sprint 4

Module	Task	Hours for completion	Expected date of completion	Actual date of completion	Reason for Deviation
Location owner	Register	5 hours	29/03/2024	29/03/2024	
	Manage profile	5 hours	30/03/2024	30/03/2024	
	View film announcement	4 hours	01/04/2024	01/04/2024	
	Manage location	5 hours	02/04/2024	02/04/2024	
	View payment	4 hours	03/04/2024	03/04/2024	
	Manage location booking request	5 hours	05/04/2024	05/04/2024	
	View bookings	4 hours	06/04/2024	06/04/2024	
	View feedback	4 hours	08/04/2024	08/04/2024	
	Validation	4 hours	08/04/2024	08/04/2024	
Job seekers	Registration	5 hours	09/04/2024	09/04/2024	
	Manage profile	5 hours	11/04/2024	11/04/2024	
	View film announcements	4 hours	12/04/2024	12/04/2024	
	View job vacancies	4 hours	15/04/2024	15/04/2024	
	Apply for job	4 hours	16/04/2024	16/04/2024	
	View job request status	4 hours	18/04/2024	18/04/2024	
	Add previous work	5 hours	19/04/2024	19/04/2024	
	Manage previous work	5 hours	20/04/2024	20/04/2024	
	Validation	4 hours	20/04/2024	20/04/2024	

2.5 User Stories

Filmatrix is a web application which consists of five modules as Admin, Film company, Hiring team, Location owner and Job seekers. Admin should be able to manage the Film company, Hiring team and Location owner. Admin should be able to view and manage the location adding request from location owner. Admin should be able to view approved locations. Admin should be able to view approved job seekers.

Film company should be able register and login to the Filmatrix platform and use its services and features. Film company should be able to Add and view announcements, view and manage hiring team request, view film progress added by hiring team, view locations added by location owner, view and manage location booking request sent by hiring team, view location booking status, view accepted job seekers, add feedback for hiring team. Film company should also be able to view the profile and update it.

Hiring team should be able register and login to the Filmatrix platform and use its services and features. Hiring team should be able to View film announcements added by film company, send hiring application to film company, view hiring request status, view locations added by location owner, send location booking request to film company, view location booking request status from film company, do payment to location owner, book location, view location booking status, add location feedback, add and view job vacancies, view and manage job request from job seekers, view previous works of job seekers, add and update film progress, view feedback from film company. Hiring team should also be able to view the profile and update it.

Location owner should be able to register for the platform by providing personal information and then log in to account using email and password. Location owner should be able to view film announcements added by film company, add locations, view location adding status from admin, manage location booking status from hiring team, view payment, view location booking status, view feedback from hiring team. They should also be able to view and update their profile.

Job seekers should be able to register and log in to account using email and password . They should be able to View film announcements added by film company, view jobs added by hiring team, send job request to film hiring team, view job request status, add and update previous works. They should also be able to view and update their profile.

FEASIBILITY STUDY

3.FEASIBILITY STUDY

System study is the best of system proposed according to work ability, impact on the organization ability to meet user needs, and effective use of resources. The prime focus of the feasibility study is evaluating the practicability of the proposed system keeping in mind a number of factors.

3.1 Economical Feasibility

The economic analysis is done to determine the benefits and savings that are expected from the candidate system and compare them with costs. Thus, coming to a conclusion on whether the system is economically feasible or not. This system is cost effective as well as time effective, thereby making it economically feasible. This study presents tangible and intangible benefits from the project by comparing the developments and operational costs. The technique of cost benefit analysis is often used as a basis for assessing economic feasibility.

3.2 Technical Feasibility

The technical requirements for the system are economic, and there is no need for additional hardware. This application is developed using MERN Stack, whose development kit are easily available and free of cost, thus making our system technically feasible.

3.3 Operational Feasibility

Operational feasibility is determined by how well the system meets requirements. Since the system is user-friendly and minimizes manual work, it is considered operationally feasible. The user-friendly nature of the system reduces the workload for all entities involved. The streamlined user experience enhances adoption rates among stakeholders, fostering widespread acceptance and utilization of the system. By automating tasks and simplifying processes, the system optimizes efficiency and productivity, further bolstering its operational feasibility.

3.4 Behavioral Feasibility

This analysis involves how it will work when it is installed and the assessment

of the political and managerial environment in which it is implemented. People are inherently resistant to change and computers have been known to facilitate change. The new proposed system is very much useful to the users and therefore it will accept a broad audience.

3.5 Software Feasibility

The application is developed in a high software environment, but it is adaptable to various other environments with minimal changes. The system is fully feasible to be executed on different operating systems and browsers. Its cross-platform compatibility ensures seamless operation across diverse environments, enhancing accessibility and usability for users across different systems and browsers.

3.5 Hardware Feasibility

Software can be developed with the existing resources. But the existing resources may or may not be used to produce hardware. If no hardware is newly bought for a project, then software is said to achieve hardware feasibility. The system's reliance solely on existing hardware resources ensures efficient utilization of infrastructure and eliminates the need for additional hardware procurement, solidifying its hardware feasibility.

SOFTWARE ENGINEERING PARADIGM

4. SOFTWARE ENGINEERING PARADIGM

The software engineering paradigm which is also referred to as a software process model or Software Development Life Cycle (SDLC) model is the development strategy that encompasses the process, methods and tools.

4.1 Agile model

Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile Methods break the product into small incremental builds. These builds are provided in iterations. Each iteration typically lasts from about one to three weeks. At the end of the iteration, a working product is displayed to the customer and important stakeholders. Agile Methods break the product into small incremental builds. These builds are provided in iterations. Each iteration typically lasts from about one to three weeks.

At the end of the iteration, a working product is displayed to the customer and important stakeholders. Agile model believes that every project needs to be handled differently and the existing methods need to be tailored to best suit the project requirements. In Agile, the tasks are divided to time boxes (small time frames) to deliver specific features for a release.

Agile software development is an umbrella term for a set of frameworks and practices based on the values and principles expressed in the Manifesto for Agile Software Development and the 12 Principles behind it. When user approach software development in a particular manner, it's generally good to live by these values and principles and use them to help figure out the right things to do given users particular context. One thing that separates Agile from other approaches to software development is the focus on the people doing the work and how they work together. Solutions evolve through collaboration between self-organizing cross-functional teams utilizing the appropriate practices for their context.

4.2 Scrum

Scrum is an agile framework for managing knowledge work, with an emphasis on software development. It is designed for teams of three to nine members, who break their work into actions that can be completed within time boxed iterations, called "sprints", no longer than one month and most commonly two weeks, then track progress and re-plan in 15-minute stand-up meetings, called daily scrums.

Scrum is an iterative and incremental framework for managing product development. It defines "a flexible, holistic product development strategy where a development team works as a unit to reach a common goal", challenges assumptions of the "traditional, sequential approach to product development, and enables teams to self organize by encouraging physical co-location or close online collaboration of all team members, as well as daily face-to-face communication among all team members and disciplines involved.

In the project management, scrum, sometimes written Scrum or SCRUM, is a framework for developing, delivering, and sustaining products in a complex environment, with an initial emphasis on software development, although it has been used in other fields including research, sales, marketing and advanced technologies. It is designed for teams of ten or fewer members, who break their work into goals that can be completed within time-boxed iterations, called sprints, no longer than one month and most commonly two weeks. The scrum team assess progress in time-boxed daily meetings of 15 minutes or less, called daily scrums (a form of stand-up meeting). At the end of the sprint, the team holds two further meetings: the sprint review which demonstrates the work done to stakeholders to elicit feedback, and sprint retrospective which enables the team to reflect and improve.

Scrum embraces change and uncertainty, favoring an empirical approach over predictive methods. It prioritizes quick delivery, adaptability, and maximizing team efficiency. Though terms like "scrum master" are often capitalized, this article uses normal sentence case unless they're recognized trademarks. While "SCRUM" is sometimes written in all capitals, it's not an acronym, likely stemming from an early paper by Ken Schwaber. Though the trademark on "Scrum" has lapsed, the leading capitalization remains, except when used with other words.

SYSTEM REQUIREMENT

SPECIFICATION

5. SYSTEM REQUIREMENTS SPECIFICATION

5.1 Software Requirements

- Operating system : Windows 8 or above
- Frontend : React
- Backend : Express, Node.js, MongoDB
- IDE : Visual Studio
- Framework : MERN

5.2 Hardware Requirements

- A device with an internet connection
- Processor : intel core i3 or above
- System Bus : 32 bit or 64 bits
- RAM : 4 GB or Above
- HDD : 500 GB or Above

SYSTEM DESIGN

6. SYSTEM DESIGN

System design is the first in the development phase for many engineered product or system. It may define the process of applying various techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.

6.1. MongoDB

Database design is the process of producing a detailed data model of a database. This logical data model contains all the needed logical and physical design choices and physical storage parameters needed to generate a design in a data definition language, which can then be used to create a database. The term database design can be used to describe many different parts of the design of an overall database system.

Non-relational model databases, also known as NoSQL databases, are a type of database management system that diverge from the traditional relational model. Instead of relying on tables with predefined schemas and fixed relationships, NoSQL databases use flexible and dynamic data models, such as document-based, key-value, graph, or column-family.

6.2 Collections

In MongoDB, a collection is a grouping of MongoDB documents. It is the equivalent of a table in relational databases. Collections exist within databases and can store multiple documents in a structured format. Each document within a collection can have a unique structure, meaning they don't have to follow a rigid schema like in traditional relational databases.

Project Collection

- Seekers
- Announcements
- Hiring_requests
- Jobs
- Job_requests
- Locations

- Location_requests
- Location_bookings
- Payments
- Hiring_previous_works
- Seeker_previous_works
- Categories

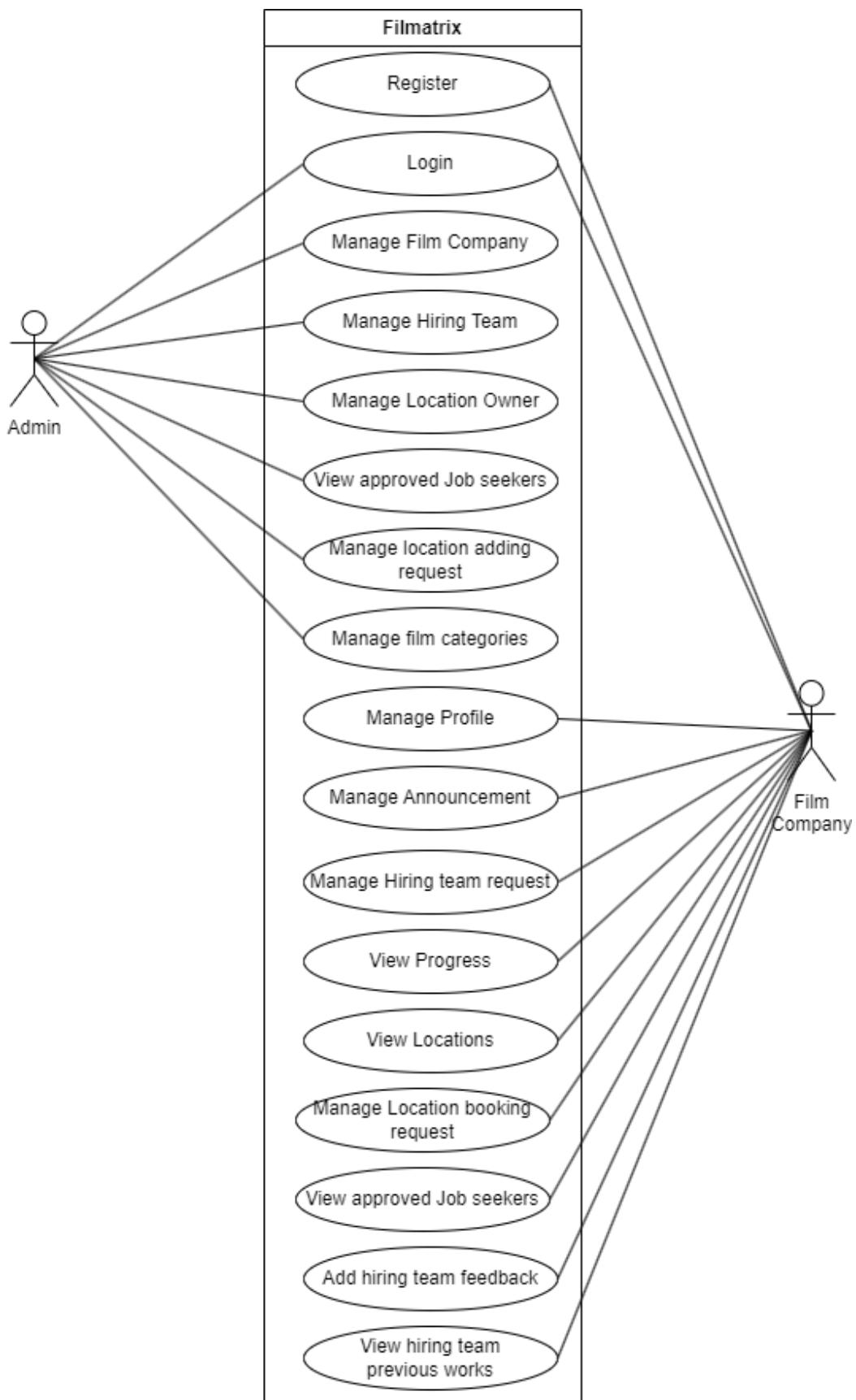
6.3 UML Designs

The Unified Modelling Language (UML) is indeed a standardized language used for specifying, visualizing, constructing, and documenting software systems, as well as for business modelling and other non-software systems. It encompasses a collection of best engineering practices that have been proven successful in modelling large and complex systems. UML provides a set of graphical notations that allow software developers and other stakeholders to express and communicate the design of software projects effectively.

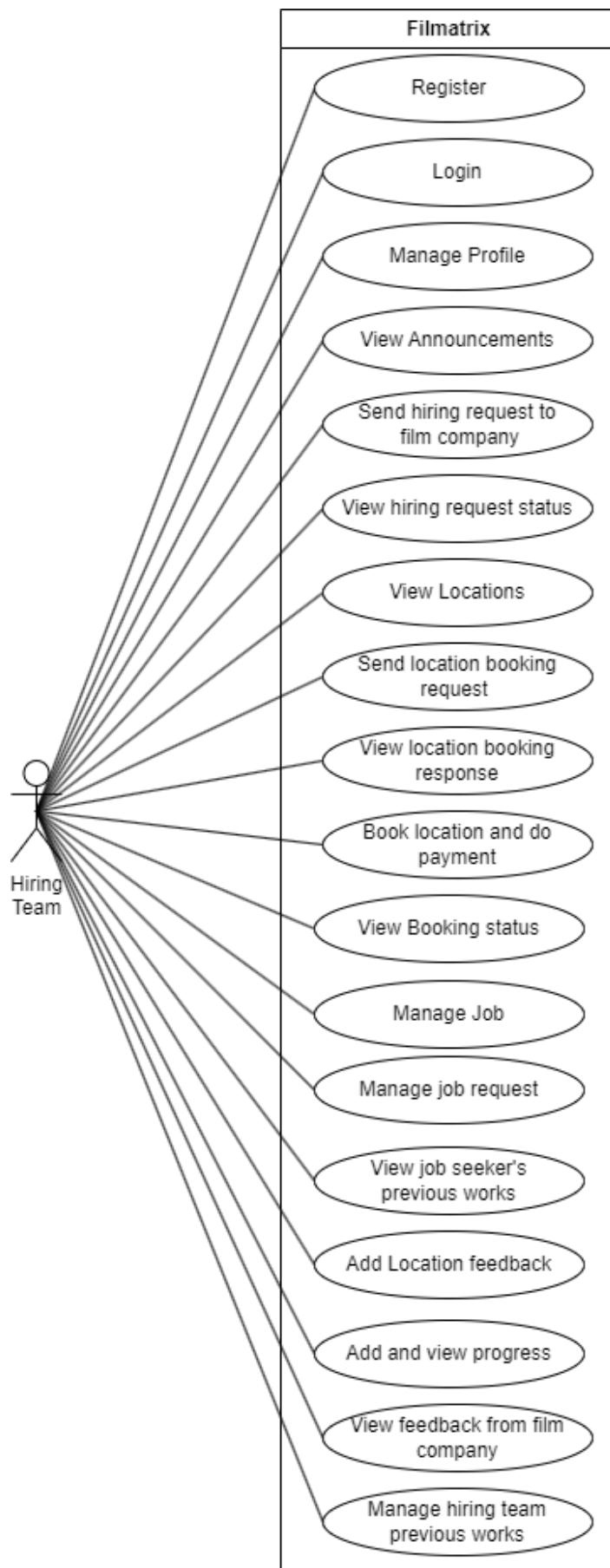
By using UML, project teams can visualize and explore potential designs, communicate design decisions, and validate the architectural design of the software system. UML diagrams serve as a means to represent various aspects of the system being developed. These diagrams can be used to depict the structure of the system, its behaviour , interactions between components, and the overall flow of activities. The graphical nature of UML diagrams makes them intuitive and easier to understand for both technical and non-technical stakeholders involved in the software development process. UML provides a standardized and widely accepted notation, which promotes consistency and clarity in design documentation. This allows for better collaboration among team members and facilitates the understanding and maintenance of software systems over time. The use of UML in software development can enhance communication, facilitate design exploration, and provide a solid foundation for developing and documenting complex software systems

6.2 Use case diagram

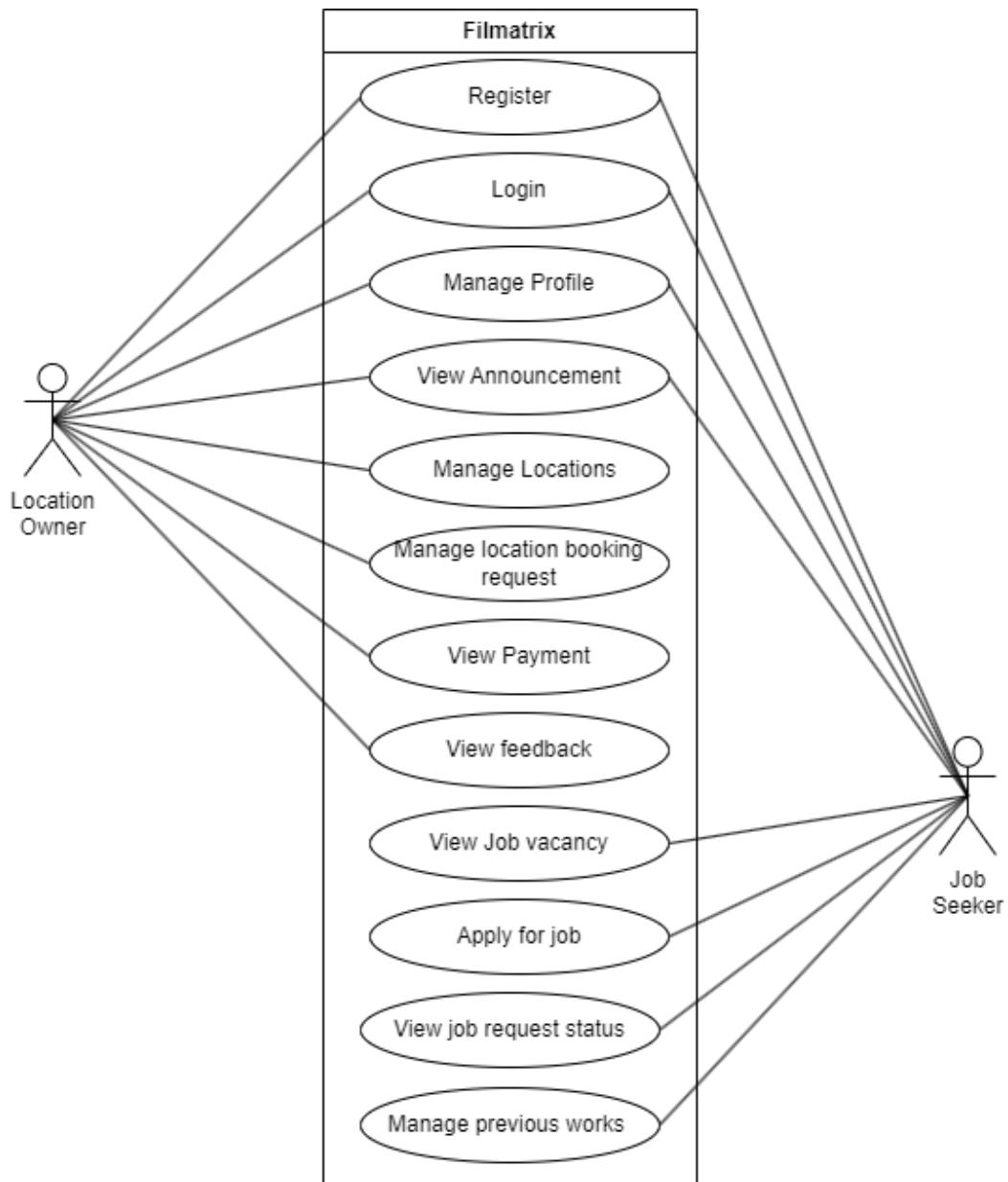
1)



2)



3)



6.3 Scenario

Admin:

- Can login
- Can view, approve, reject film company
- Can view, approve, reject hiring team
- Can view, approve, reject location owner
- Can view approve, reject location request
- Can view accepted job seekers
- Manage job categories

Film company:

- Can register
- Can login
- Can view and update profile
- Can add and view film announcements
- Can view and manage hiring team request
- Can view hiring team previous works
- Can view film progress
- Can view locations
- Can view and manage location booking request
- Can view approved job seekers
- Can add hiring team feedback

Hiring team:

- Can register
- Can login
- Can view and update profile

- Can view film announcements
- Can send hiring request to film company
- Can view hiring request status
- Can view locations
- Can send location booking request to film company
- Can view location booking response
- Can do payment for location booking
- Can book locations
- Can view location booking status
- Can add location feedback
- Can manage hiring team previous works
- Can add job vacancies
- Can view and manage job request
- Can view job seekers previous works
- Can add and view film progress
- Can view feedback from film company

Location owner:

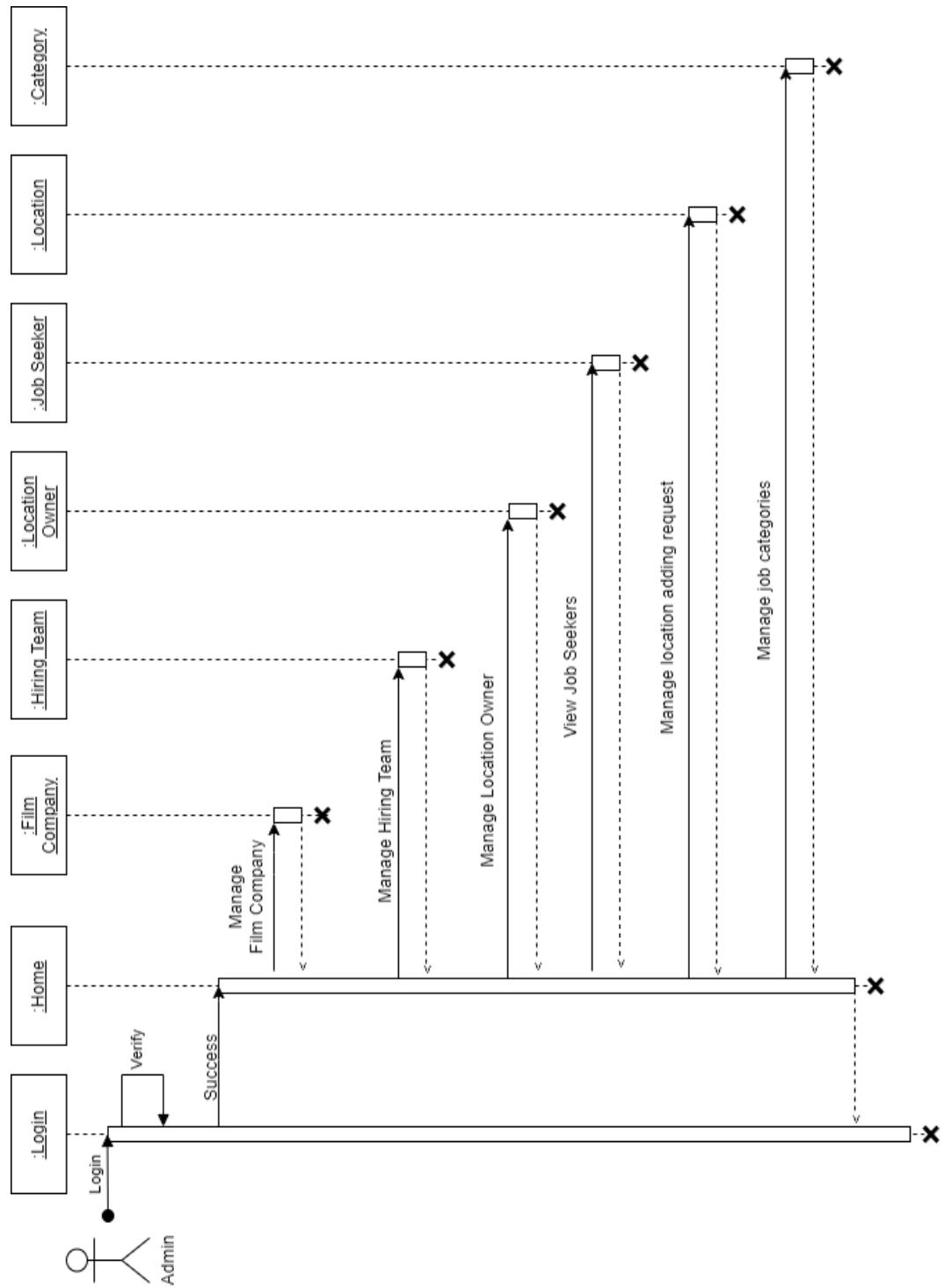
- Can register
- Can login
- Can view film announcements
- Can view and update profile
- Can manage locations
- Can view and manage location booking request
- Can view payments
- Can view feedback from hiring team

Job seekers:

- Can register
- Can login
- Can view and update profile
- Can view film announcements
- Can view job vacancies
- Can apply for job
- Can view job request status
- Can add and update previous works

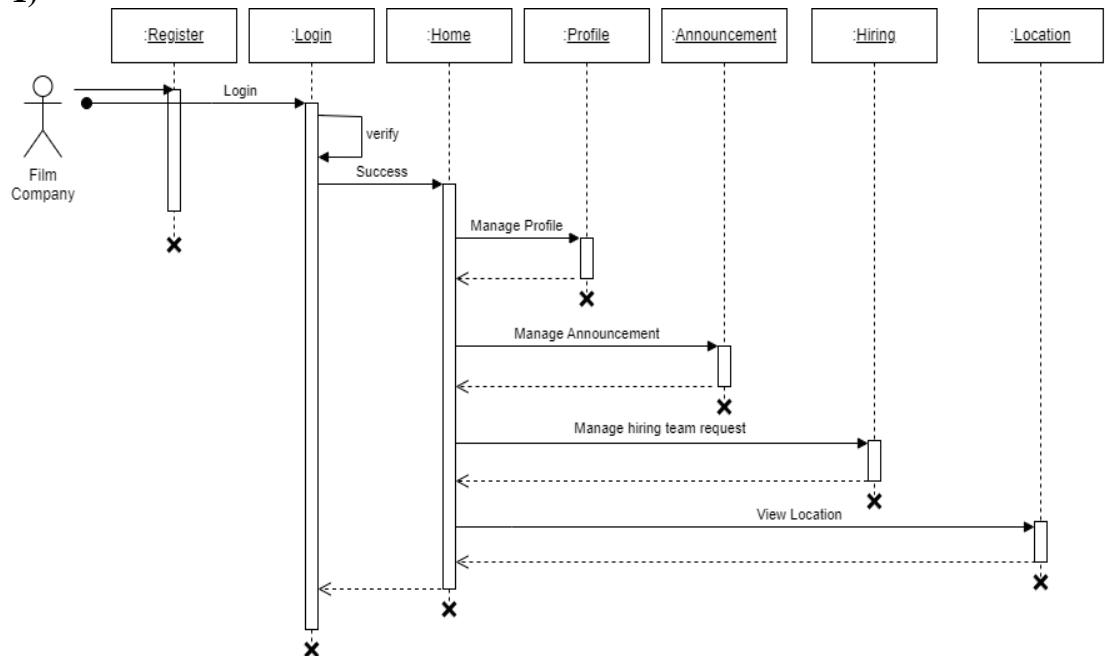
6.4 Sequence Diagram

Admin

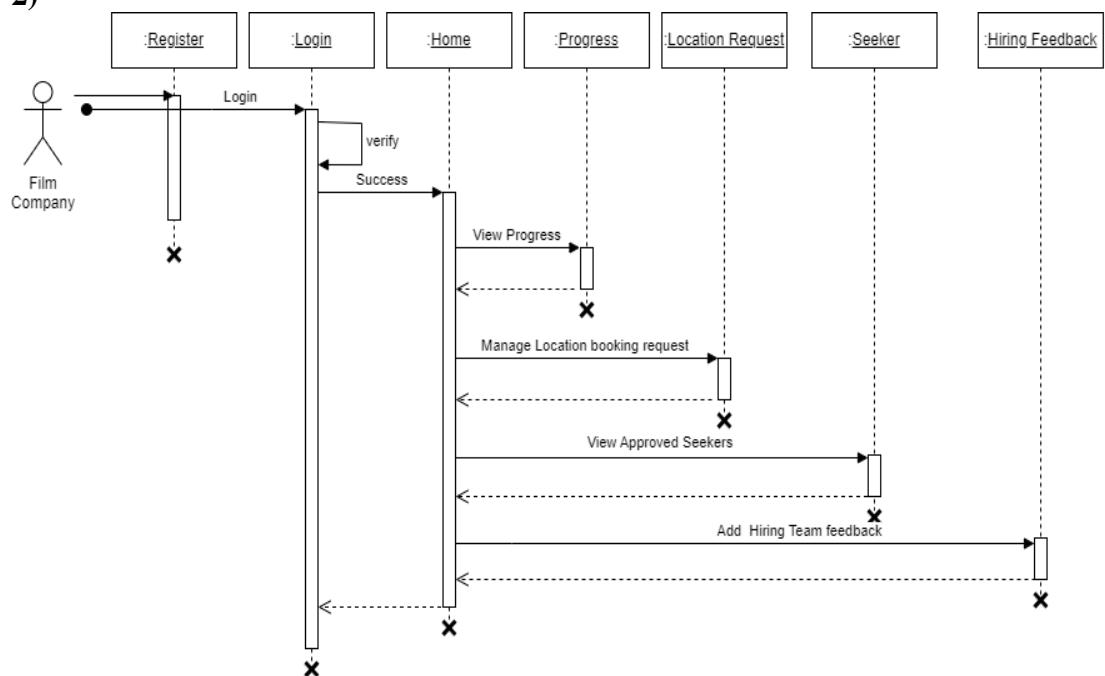


Film company:

1)

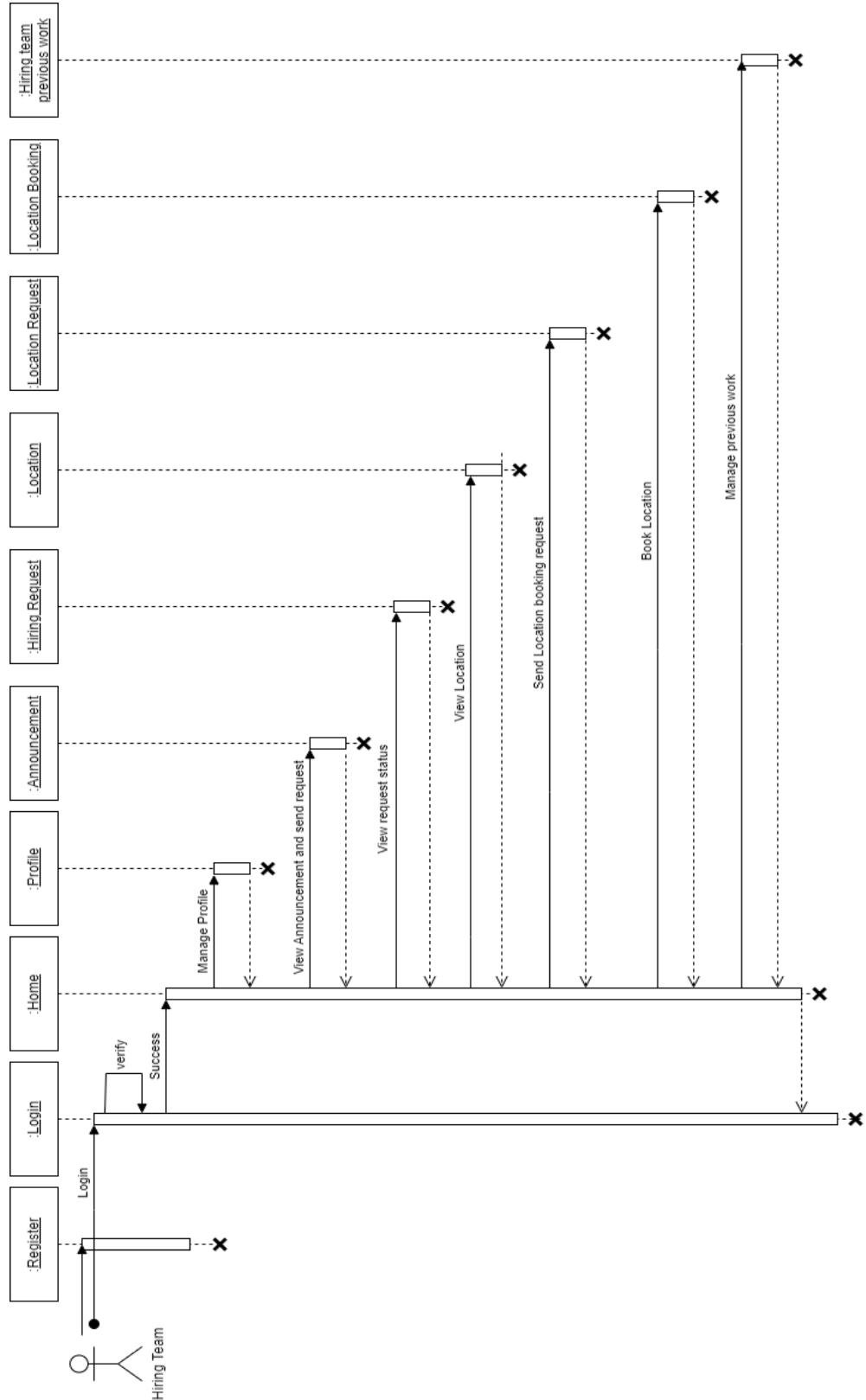


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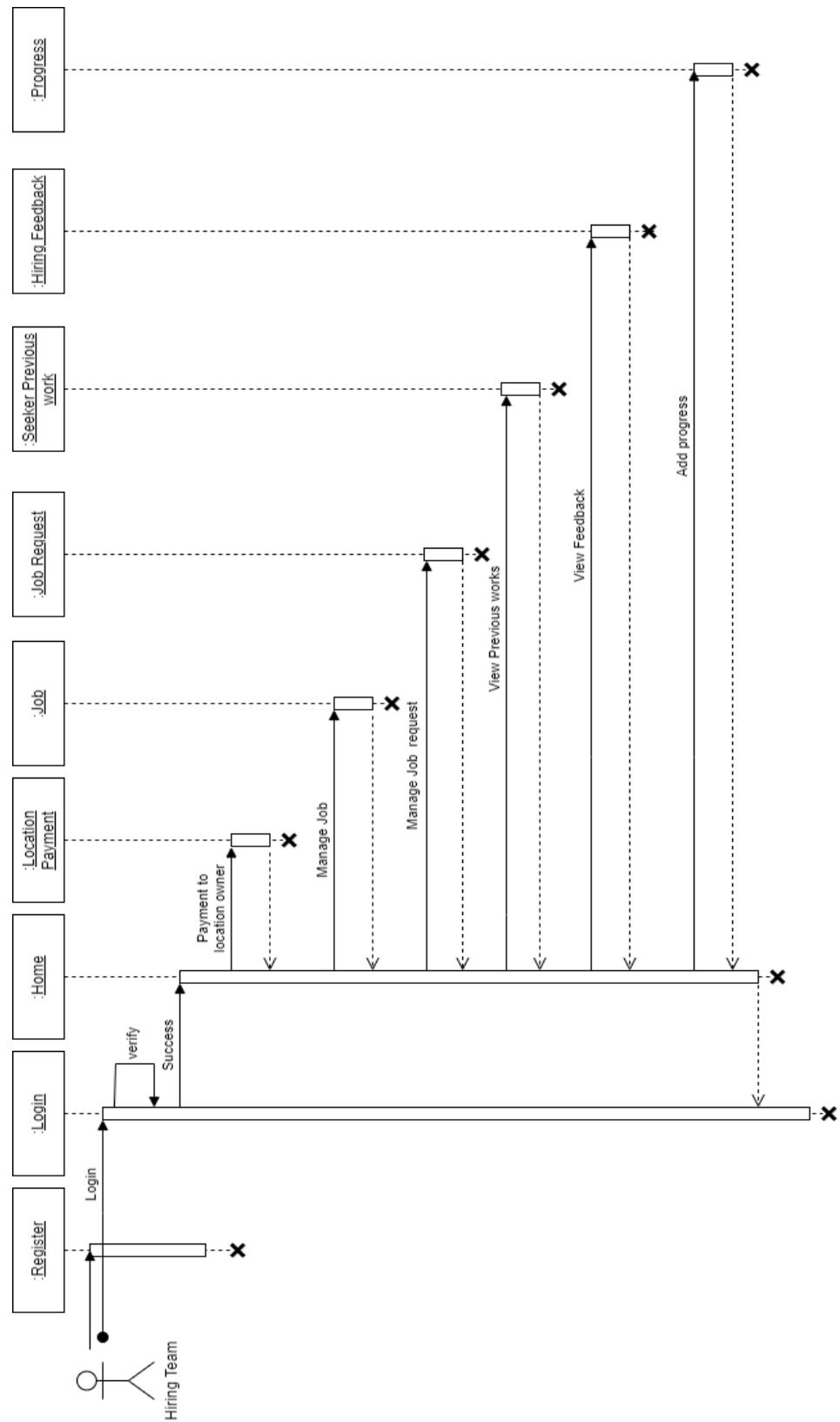


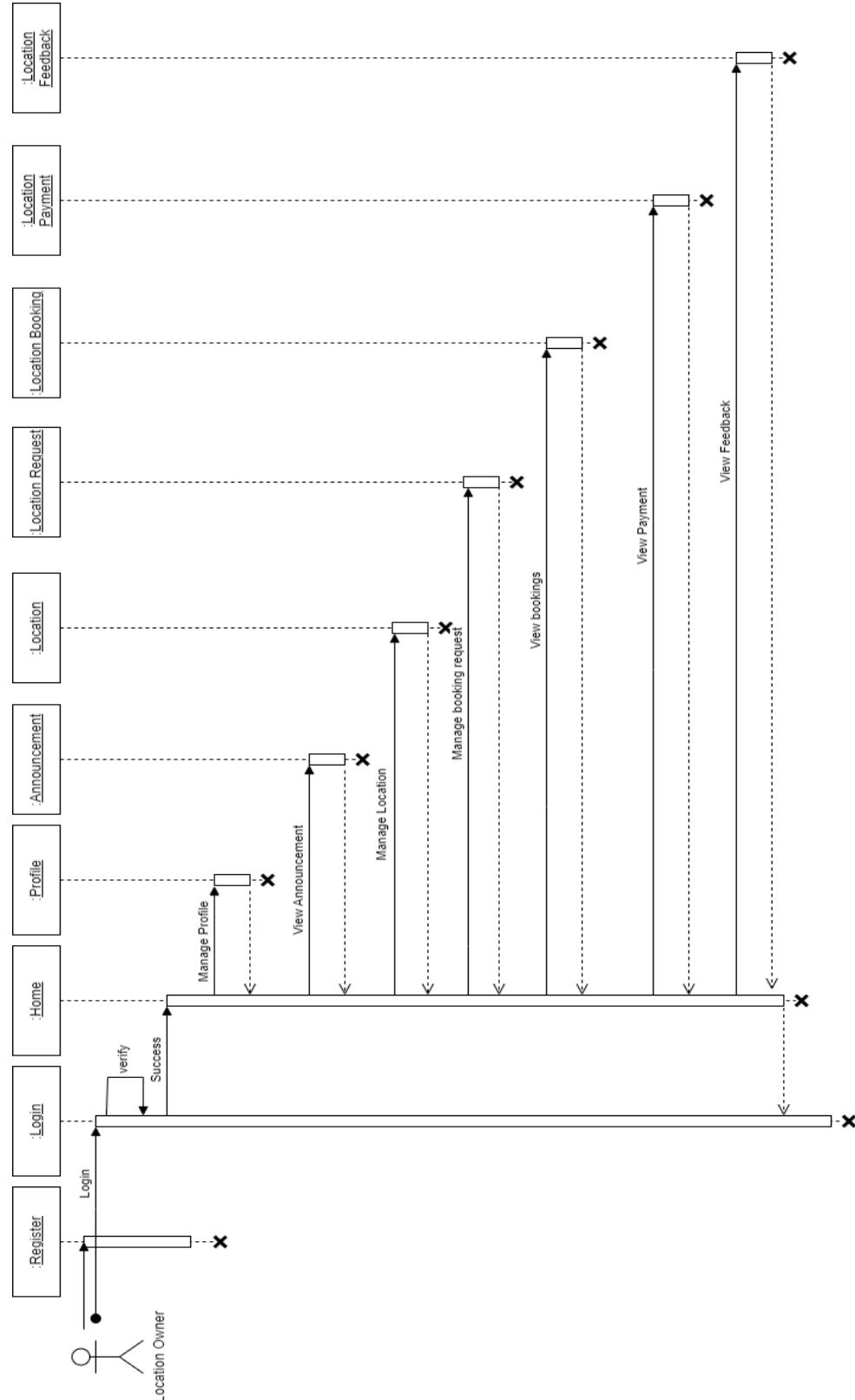
Hiring team:

1)

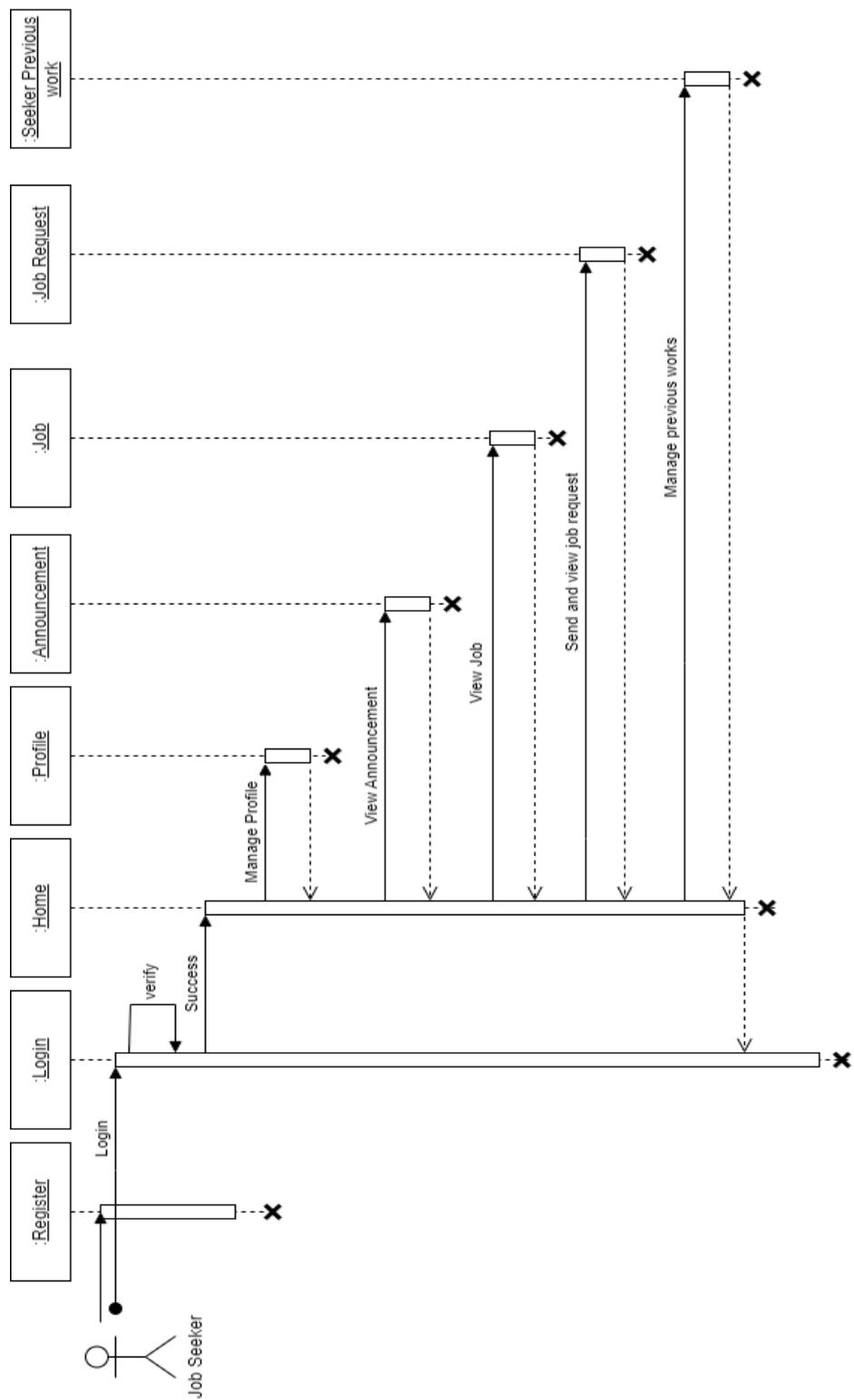


2)



Location owner:

Job seeker



SYSTEM DEVELOPMENT

7.SYSTEM DEVELOPMENT

System development is a series of operations to manipulate data to produce output from a computer system. The principal activities performed during the development phase can be divided into two major related sequences.

- External system development
- Internal system development

The major external system activities are:

- Implementation
- Planning
- Equipment acquisition
- Installation

7.1 Coding

The purpose of code is to facilitate the identification and retrieval of items of information. A code is an ordered collection of symbols designed to provide unique identification of an entity or an attribute. Code also shows interrelationship among different items. Codes are used to identify, access, sort, matching records. The code ensures that only one value of code with a single meaning is applied to give an entity or attribute as described in various ways.

Node JS

Node.js is an open-source, cross-platform JavaScript runtime environment that enables developers to build scalable and high-performance applications. It is built on top of the V8 JavaScript engine used by Google Chrome and provides an event-driven, non-blocking I/O model that makes it well-suited for real-time web applications. Node.js enables developers to write server-side applications using JavaScript, which is a popular and widely-used programming language on the web. It has a vast ecosystem of third-party packages and libraries that can be easily installed using the Node Package Manager (NPM). Node.js applications can be run on various platforms such as Windows, Mac, and Linux.

Express JS

Express.js is a minimal and flexible Node.js web application framework that provides a set of robust features for building web and mobile applications. It is one of the most popular and widely-used frameworks for Node.js, and is known for its simplicity and ease of use. Express.js provides a set of features for developing serverside web applications, including routing, middleware support, template engines, and much more. It also provides an easy-to-use API for interacting with databases such as MongoDB and MySQL, and supports a variety of templating engines, such as Pug, Handlebars, and EJS.

Mongo DB

MongoDB is a popular document-oriented NoSQL database system that allows developers to store and manage large amounts of data in a flexible and scalable way. It is an open-source database that uses JSON-like documents with optional schemas, which makes it easy to work with and suitable for a variety of use cases. One of the key benefits of MongoDB is its ability to scale horizontally. This means that developers can add new servers to their database cluster as the amount of data or traffic increases, which allows the database to handle more requests and ensures that it can continue to perform well even as the application grows.

SYSTEM TESTING AND IMPLEMENTATION

8.SYSTEM TESTING AND IMPLEMENTATION

Testing is vital to the success of the system. It makes a logical assumption that if all the parts of the system are correct, the goal will be successfully achieved in this project. It is the stage of implementation, which ensures that the system works accurately and effectively before the live operation commences.

8.1 Types of Testing

Unit testing

Unit testing is a software testing technique that focuses on testing individual units or components of a software system in isolation. The purpose of unit testing is to ensure that each unit functions correctly and produces the expected outputs when provided with specific inputs.

Black box testing

Black box testing is a software testing technique where the tester examines and tests the software without having knowledge of its internal structure, implementation details, or code.

White box testing

White box testing is a software testing technique that focuses on examining and validating the internal structure, design, and code of the software. Testers have access to the internal components, implementation details, and source code, allowing them to assess the internal logic and behavior of the software.

8.2 Implementation

Implementation is the stage of project, when theoretical design is turned into a working system. The most crucial stage is achieving a successful system and confidence that the new system will work effectively. It involves careful planning, investigation of the manual system and the new system. Implementation means converting a new or revised system design into an operational one. The implementation includes all those activities that take place to convert from the old system to the new one.

SYSTEM MAINTENANCE

9. SYSTEM MAINTENANCE

Maintenance is making adaptation of the software for external changes (requirements changes or enhancements) and internal changes (fixing bugs). When changes are made during the maintenance phase all preceding steps of the model must be revisited.

There are 3 types of maintenance:

- Corrective (Fixing bugs/errors)
- Adaptive (Updates due to environment changes)
- Perfective (Enhancements, requirements changes)

Maintenance is enigma of the system development. The definition of the software maintenance can be given describing four activities that are undertaken after the program is released for use. The maintenance activity occurs since it is unreasonable to assume that software testing will uncover all in a large system. The second activity that contributes the definition of maintenance occurs since rapid changes are encountered in every aspect of computing. The third activity involves recommendation for new capabilities, modification to the existing functions and general enhancements when the software is used. The fourth maintenance activity occurs when software is changed to improve future maintainability or reliability.

FUTURE ENHANCEMENT

10. FUTURE ENHANCEMENT

In future iterations, "Filmatrix" could explore integrating advanced collaboration tools directly into its platform, facilitating seamless communication and project management for filmmaking teams. By incorporating features such as real-time chat, file sharing, and task assignment, filmmakers can streamline their workflow and enhance productivity within a centralized environment. This integration would not only simplify the coordination of tasks but also foster a more cohesive and efficient production process, ultimately leading to higher-quality films.

Furthermore, "Filmatrix" could expand its reach to become a global marketplace for filmmakers, enabling cross-border collaboration and talent sourcing. By forging partnerships with international industry organizations and film commissions, the platform could provide access to diverse talent pools and filming locations worldwide. This expansion would not only enrich the creative possibilities for filmmakers but also promote cultural exchange and collaboration on a global scale, driving innovation and diversity within the film industry.

CONCLUSION

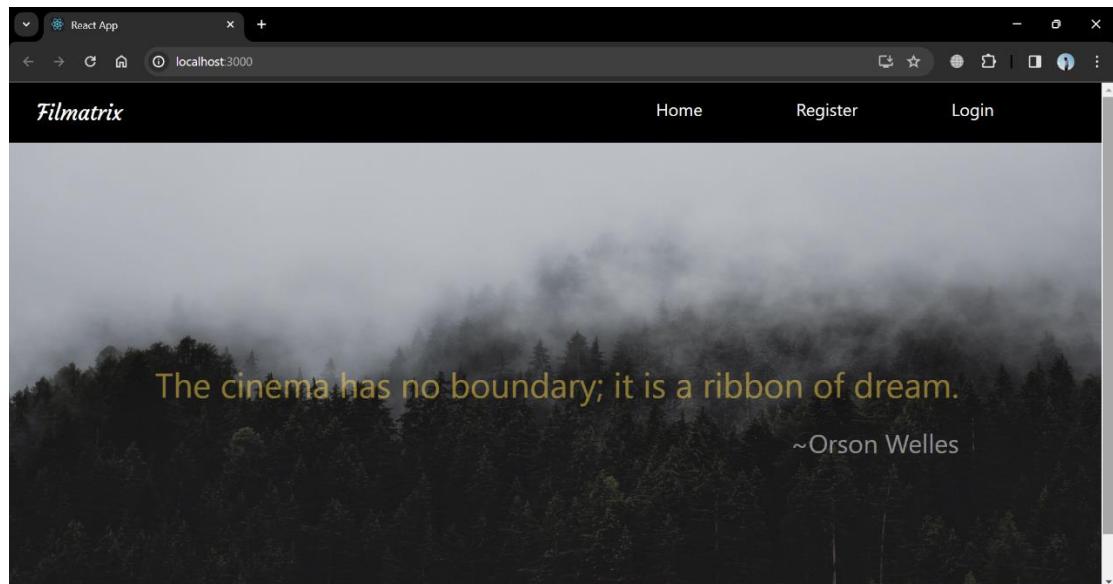
11. CONCLUSION

In conclusion, "Filmatrix" emerges as a revolutionary force within the film industry, positioned to fundamentally transform traditional methods of collaboration and production. Its emphasis on user-friendliness and efficiency provides filmmakers with a streamlined platform to assemble their ideal cast and crew effortlessly. By centralizing movie announcements and job management tools, "Filmatrix" promotes transparency and accessibility, offering aspiring professionals unprecedented access to diverse opportunities. The platform's comprehensive features, including job management and location booking, streamline the recruitment process and facilitate seamless production logistics. With a dedicated hiring team overseeing operations, "Filmatrix" represents a groundbreaking fusion of technology and creativity, empowering storytellers to bring their visions to life with unprecedented ease and efficiency, thus shaping the future landscape of filmmaking for generations to come.

APPENDIX

12.APPENDIX

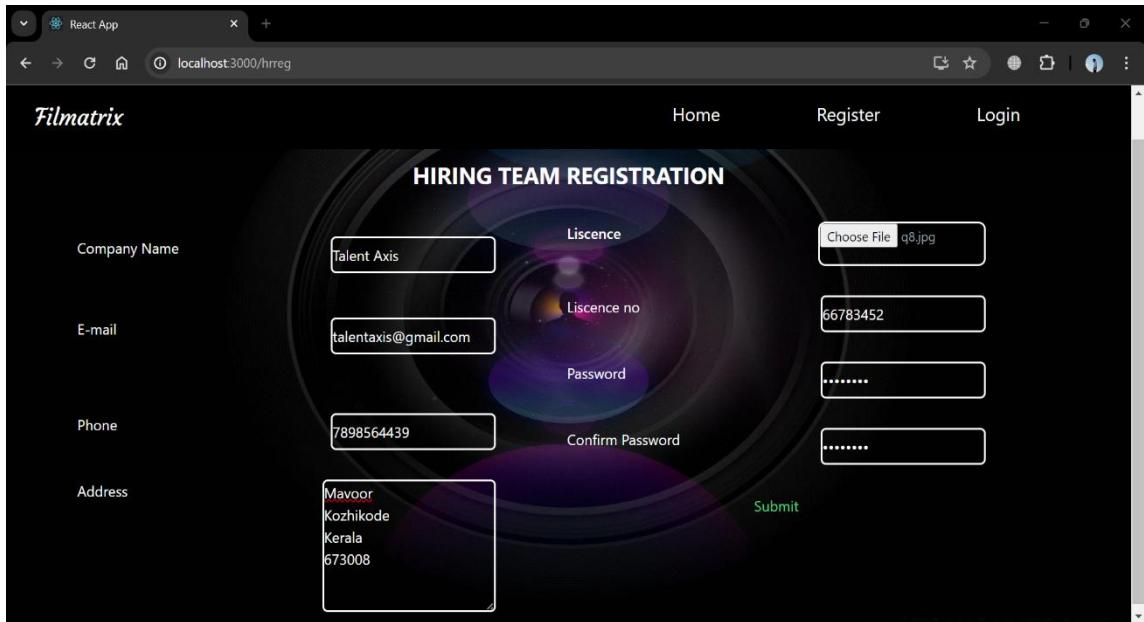
Landing page



Film company registration

A screenshot of a web browser showing the "FILM COMPANY REGISTRATION" form. The title bar says "React App" and the address bar shows "localhost:3000/fcreg". The header has the "Filmatrix" logo on the left and "Home", "Register", and "Login" links on the right. The form is set against a dark background with a circular purple and blue design. It contains fields for "Company Name" (input: Friday film house), "E-mail" (input: fridayfh@gmail.com), "Phone" (input: 9988367522), "Address" (input: Medical college Kozhikode Kerala 673008), "Liscence" (input: Choose File q12.jpg), "Liscence no" (input: 77365429), "Password" (input:), and "Confirm Password" (input:). A green "Submit" button is at the bottom right.

Hiring team registration

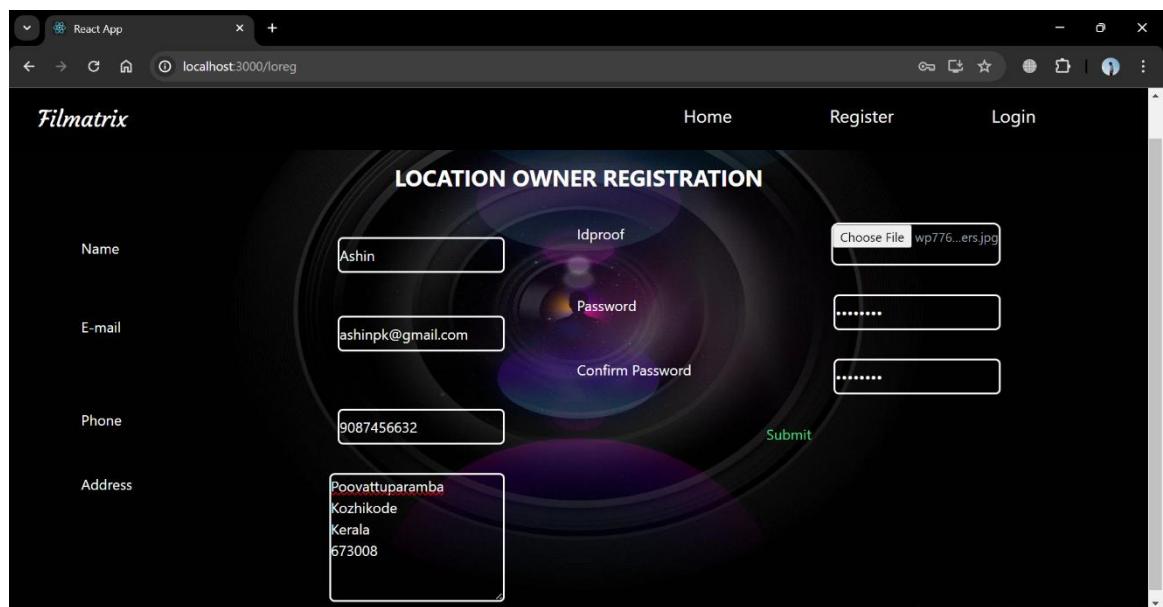


The screenshot shows a registration form titled "HIRING TEAM REGISTRATION". The form fields include:

- Company Name: Talent Axis
- E-mail: talentaxis@gmail.com
- Phone: 7898564439
- Address: Mavoor, Kozhikode, Kerala, 673008
- Licence: Choose File q8.jpg
- Licence no: 66783452
- Password: (redacted)
- Confirm Password: (redacted)

A "Submit" button is located at the bottom right.

Location owner registration

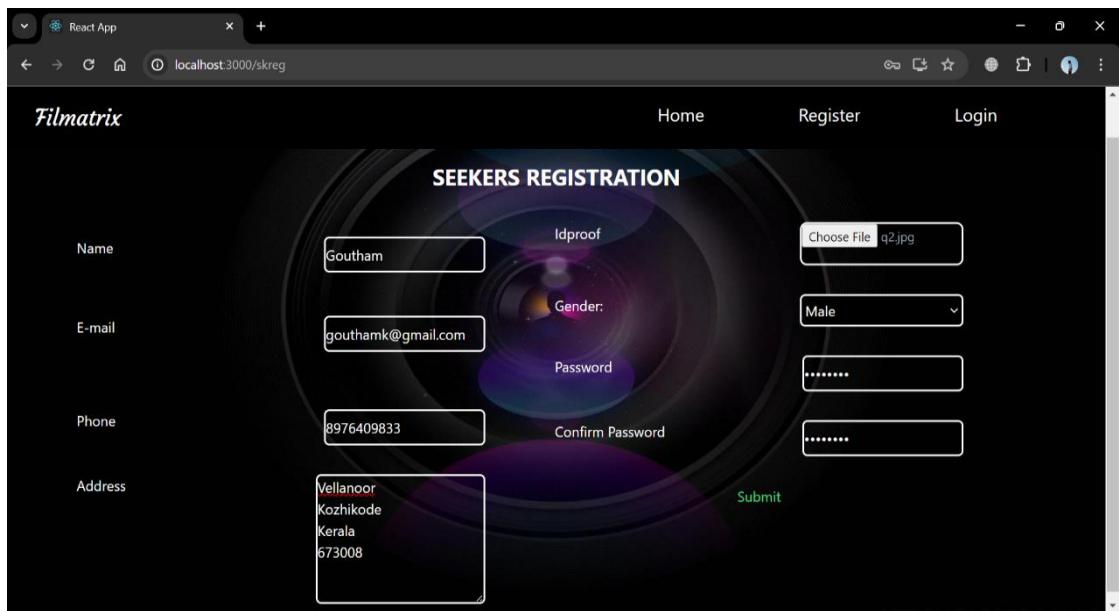


The screenshot shows a registration form titled "LOCATION OWNER REGISTRATION". The form fields include:

- Name: Ashin
- E-mail: ashinpk@gmail.com
- Phone: 9087456632
- Address: Poovattuparamba, Kozhikode, Kerala, 673008
- Idproof: Choose File wp776...ers.jpg
- Password: (redacted)
- Confirm Password: (redacted)

A "Submit" button is located at the bottom right.

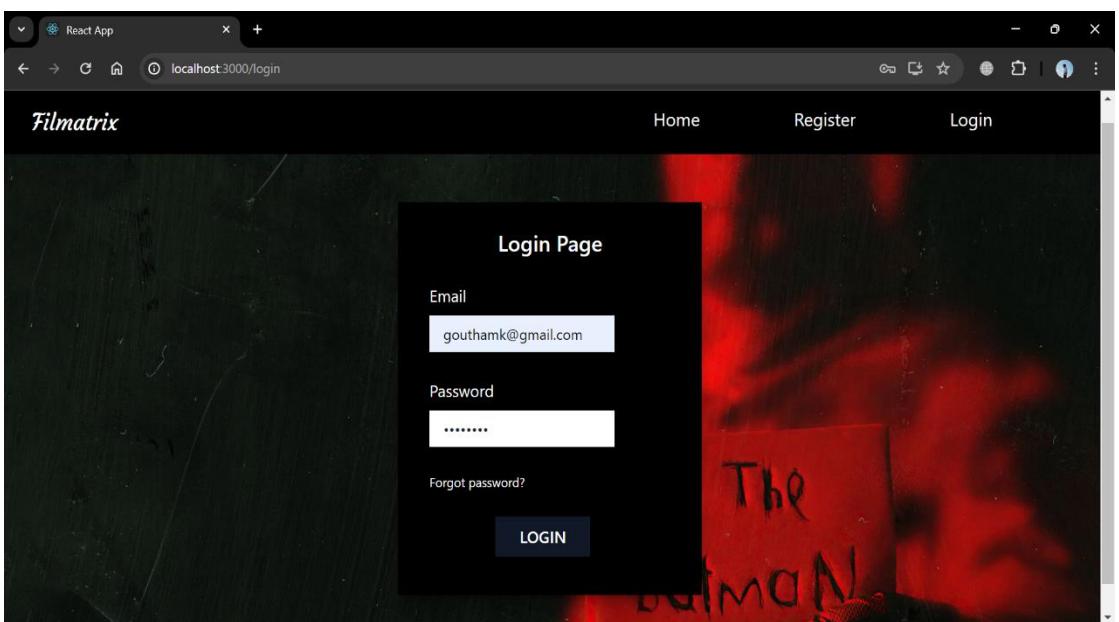
Job seekers registration



The screenshot shows a registration form titled "SEEKERS REGISTRATION". The form fields include:

- Name: Goutham
- E-mail: gouthamk@gmail.com
- Phone: 8976409833
- Address: Vellanoor, Kozhikode, Kerala, 673008
- Idproof: Choose File (selected file: q2.jpg)
- Gender: Male
- Password: (redacted)
- Confirm Password: (redacted)
- Submit button

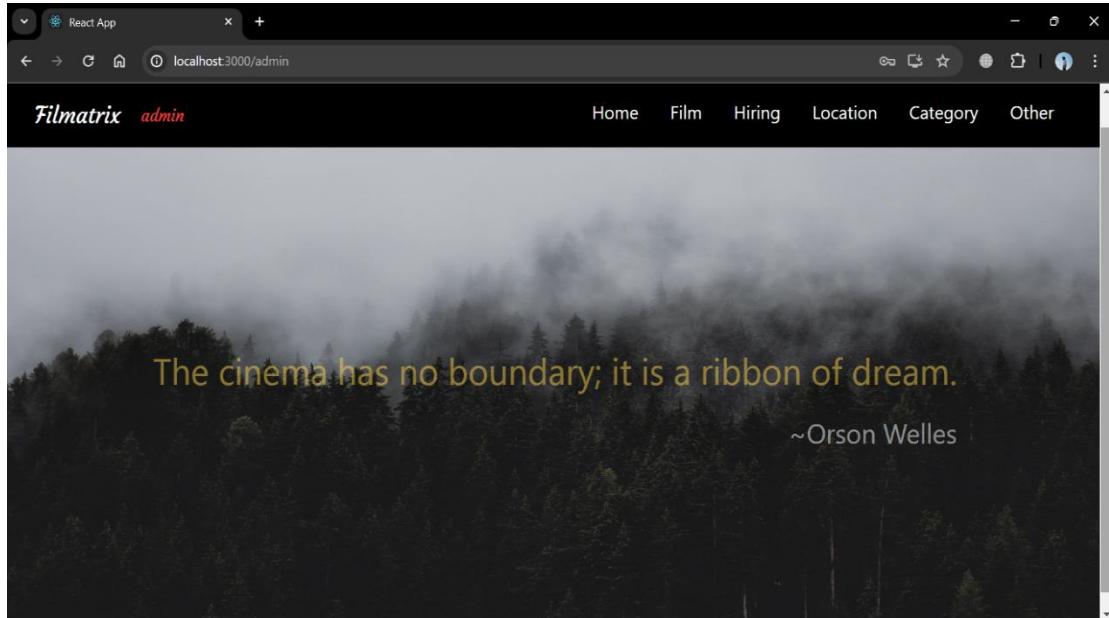
Login



The screenshot shows a login form titled "Login Page". The form fields include:

- Email: gouthamk@gmail.com
- Password: (redacted)
- Forgot password?
- LOGIN button

Admin home page



Admin view film company request

A screenshot of a web browser window titled "React App" showing the "admin" version of the Filmatrix website under the "Film" section. The header includes the Filmatrix logo and navigation links for Home, Film, Hiring, Location, Category, and Other. The main content displays a table titled "FILM COMPANY" listing two entries. The columns are SLNO, COMPANY NAME, EMAIL, PHONE NO, ADDRESS, LICENCE NO, LICENCE, and STATUS. The first entry is for "Sun pictures" with email sunpictures@gmail.com, phone 8893476544, address Koduvally, Kozhikode, Kerala, 673661, licence number 76883654, and status Accepted. The second entry is for "Goku" with email goku@gmail.com, phone 8977456639, address Uphills, Malappuram, Kerala, 675331, licence number 98445673, and status Accepted.

Admin view hiring team request

SLNO	HIRING NAME	EMAIL	PHONE NO	ADDRESS	LISCENCE NO	LISCENCE	STATUS
1	Hks	hks@gmail.com	8893564429	Mavoor Kozhikode Kerala 673008 Medical college Kozhikode Kerala 673008	89478843		Accepted
2	Arion	arion@gmail.com	8890654327		88954378		Accepted

Admin view location owner request

SLNO	OWNER NAME	EMAIL	PHONE NUMBER	ADDRESS	ID PROOF	STATUS
1	Vasu	vasu@gmail.com	8900764398	Mavoor Kozhikode Kerala 673008		Accepted
2	Dev	dev@gmail.com	9936532899	Medical college Kozhikode Kerala 673008		Accepted

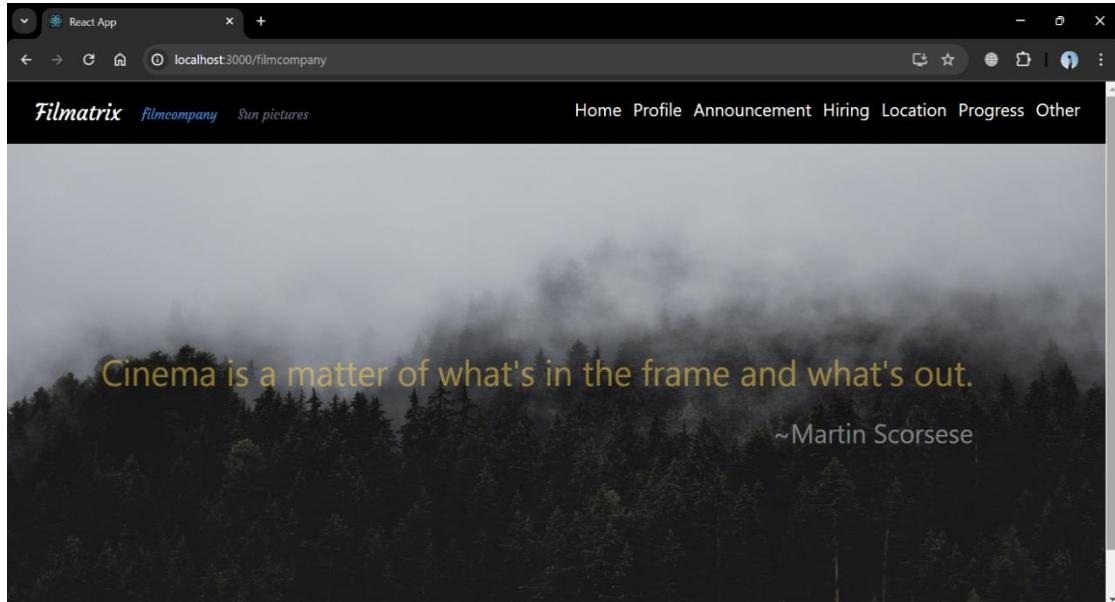
Admin view accepted job seekers

SLNO	NAME	FILM NAME	FILM COMPANY	HIRING TEAM	JOB
1	Rih	Goat life	Sun pictures	Hks	assistant
2	Sonu	Goat life	Sun pictures	Hks	assistant

Admin view location adding request

SLNO	LOCATION OWNER	LOCATION	DETAILS	STATUS
1	Vasu	dal	More	Rejected
2	Vasu	Mavoor	More	Accepted
3	Vasu	Lakkidi	More	Accepted

Film company home page



Film company view profile

A screenshot of a web browser showing the 'Film company' view profile page. The page has a dark background with a circular graphic in the center. It displays various profile fields: Company Name (Sun pictures), E-mail (sunpictures@gmail.com), Phone (8893476544), Address (Koduvally, Kozhikode, Kerala, 673661), Liscence (Choose File, 3967998.jpg), Liscence no (76883654), Password (Sun@1234), and Confirm Password (Sun@1234). A 'Submit' button is located at the bottom right.

Film company add announcement

New Announcement

Rockstar 2

Imtiaz

Sequel of Rockstar(2011)

Image: Choose File 539...jpg

Film company view announcements

ANNOUNCEMENTS

SLNO	FILM NAME	DIRECTOR	DESCRIPTION	IMAGE	DATE	Edit	Delete
1	Goat life	Blessy	Adujeevitham		3/22/2024	Edit	Delete
2	Manjummel boys	Chidambaram	Survival thriller		3/25/2024	Edit	Delete
3	The wind	Gokul	Horror thriller		4/9/2024	Edit	Delete

Film company view hiring request

The screenshot shows a web browser window titled "React App" displaying the "Filmatrix" application. The URL is "localhost:3000/filmcompany/fcviehwcreq". The page has a dark theme with a circular background graphic. At the top, there is a navigation bar with links: Home, Profile, Announcement, Hiring, Location, Progress, Other. Below the navigation is a section titled "HIRING TEAM REQUEST" with a search bar labeled "Search Film Name or Hiring". A dropdown menu shows "All". The main content is a table with the following data:

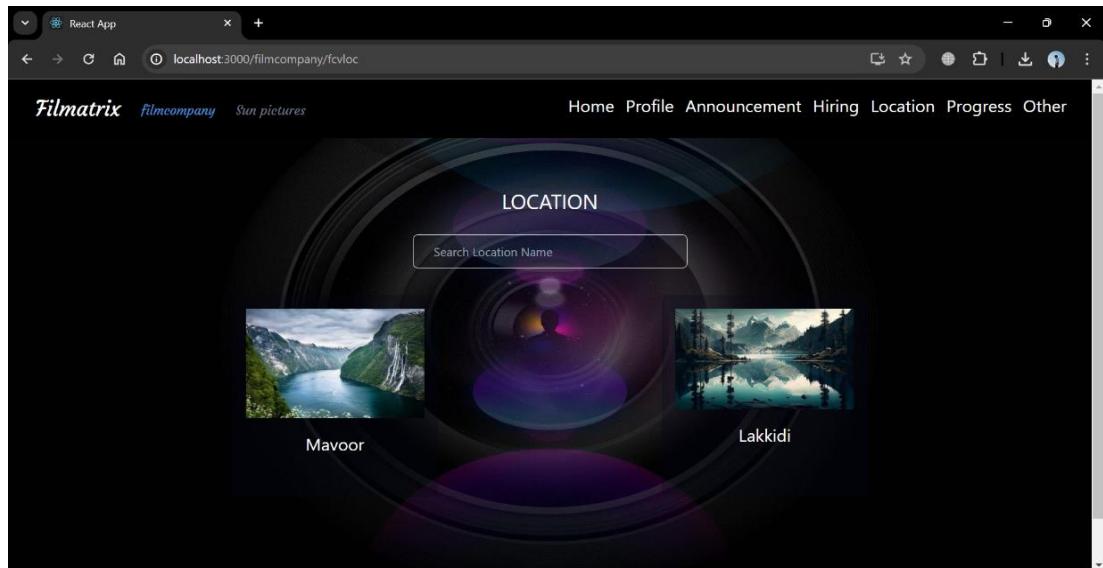
SLNO	FILM NAME	HIRING TEAM NAME	DETAILS	STATUS	FEEDBACK	DATE
1	Goat life	Hks	More	Accepted	Add	3/26/2024
2	Manjummel boys	Hks	More	Accepted	Add	3/29/2024
3	Manjummel boys	Arion	More	Accepted	Add	4/18/2024
4	The wind	Hks	More	Pending		4/25/2024

Film company view hiring request details

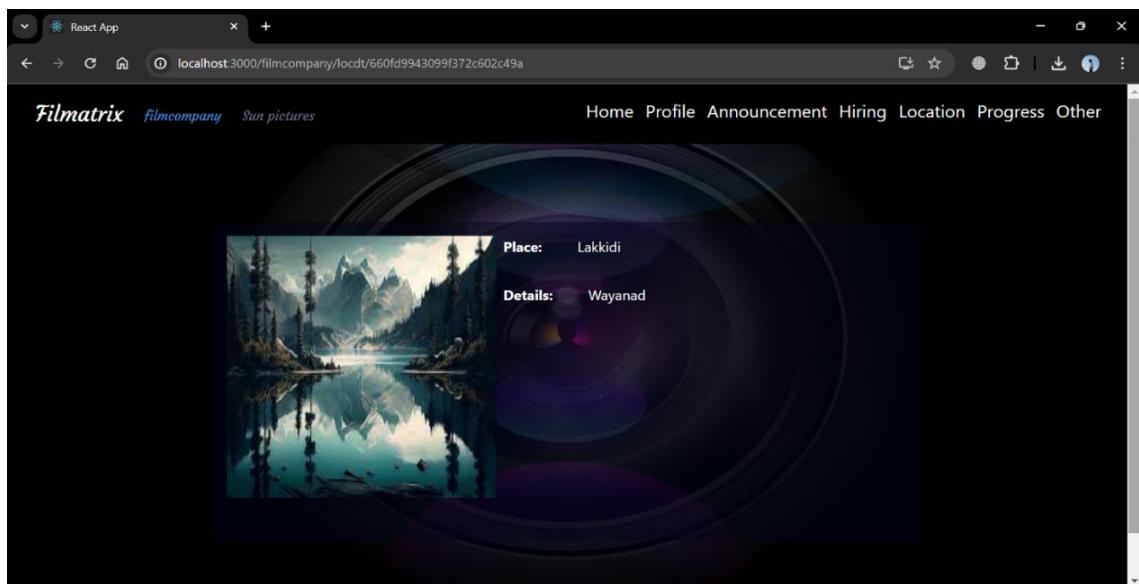
The screenshot shows a web browser window titled "React App" displaying the "Filmatrix" application. The URL is "localhost:3000/filmcompany/hiringreqdetail/6602a7a8e679556a97fe6340". The page has a dark theme with a circular background graphic. At the top, there is a navigation bar with links: Home, Profile, Announcement, Hiring, Location, Progress, Other. The main content area displays the following details for a hiring request:

- Email: hks@gmail.com
- Phone no: 8893564429
- Licence no: 89478843
- Description: Since 2010

Film company view locations



Film company view location details



Film company view location booking request

The screenshot shows a web browser window titled "React App" with the URL "localhost:3000/filmcompany/fclocreq". The page has a dark theme with a circular background graphic. At the top, there is a navigation bar with links: Home, Profile, Announcement, Hiring, Location, Progress, and Other. Below the navigation is a search bar labeled "Search Film Name, Hiring Team Name, or Location Nar". The main content area is titled "LOCATION BOOKING" and displays a table of booking requests:

SLNO	FILM NAME	HIRING TEAM	PLACE	DETAILS	STATUS
1	Goat life	Hks	Lakkidi	More	Pending
2	Goat life	Hks	Lakkidi	More	Pending
3	Goat life	Hks	Lakkidi	More	Rejected

Film company view location booking request details

The screenshot shows a web browser window titled "React App" with the URL "localhost:3000/filmcompany/locreqdetail/661653d551f9384578bb99c". The page has a dark theme with a circular background graphic. At the top, there is a navigation bar with links: Home, Profile, Announcement, Hiring, Location, Progress, and Other. The main content area displays a detailed view of a location booking request, featuring a scenic image of a lake and mountains. To the right of the image, the following details are listed:

- Place: Lakkidi
- Details: Wayanad
- Date: 4/18/2024
- No of days: 4
- Total price: 20000

At the bottom of the detail panel are two buttons: "Accept" and "Reject".

Film company view film progress

The screenshot shows a web browser window for the 'filmcompany' section of the Filmatrix application. The title bar says 'React App' and the address bar shows 'localhost:3000/filmcompany/vprogress'. The page has a dark theme with a circular background graphic. At the top right are navigation links: Home, Profile, Announcement, Hiring, Location, Progress, and Other. Below this is a search bar labeled 'Select Film Name'. The main content area is titled 'PROGRESS' and displays a table of three films:

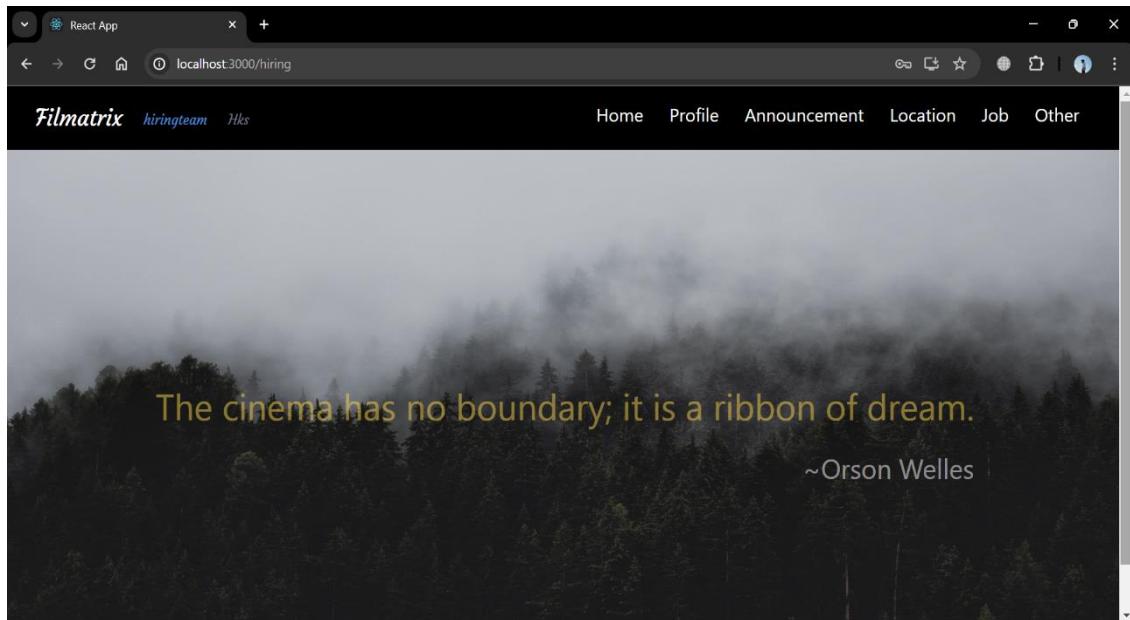
SLNO	FILM NAME	PROGRESS	DATE
1	Goat life	Casting done	3/26/2024
2	Manjummel boys	Pre production work	3/29/2024
3	The wind	No update	4/25/2024

Film company view approved job seekers

The screenshot shows a web browser window for the 'filmcompany' section of the Filmatrix application. The title bar says 'React App' and the address bar shows 'localhost:3000/filmcompany/jobseekers'. The page has a dark theme with a circular background graphic. At the top right are navigation links: Home, Profile, Announcement, Hiring, Location, Progress, and Other. Below this is a search bar with 'Select Film' and a 'Search...' input field. The main content area is titled 'CREW' and displays a table of one job seeker:

SLNO	FILM NAME	SEEKER NAME	JOB	DATE
1	Manjummel boys	Nikhil	editor	4/25/2024

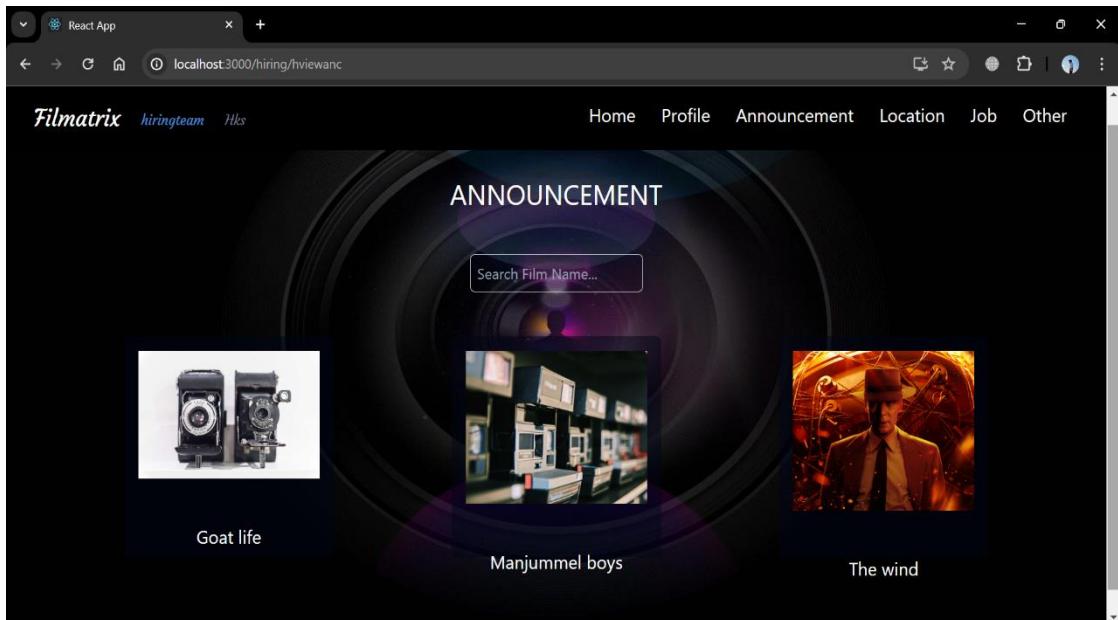
Hiring team home page



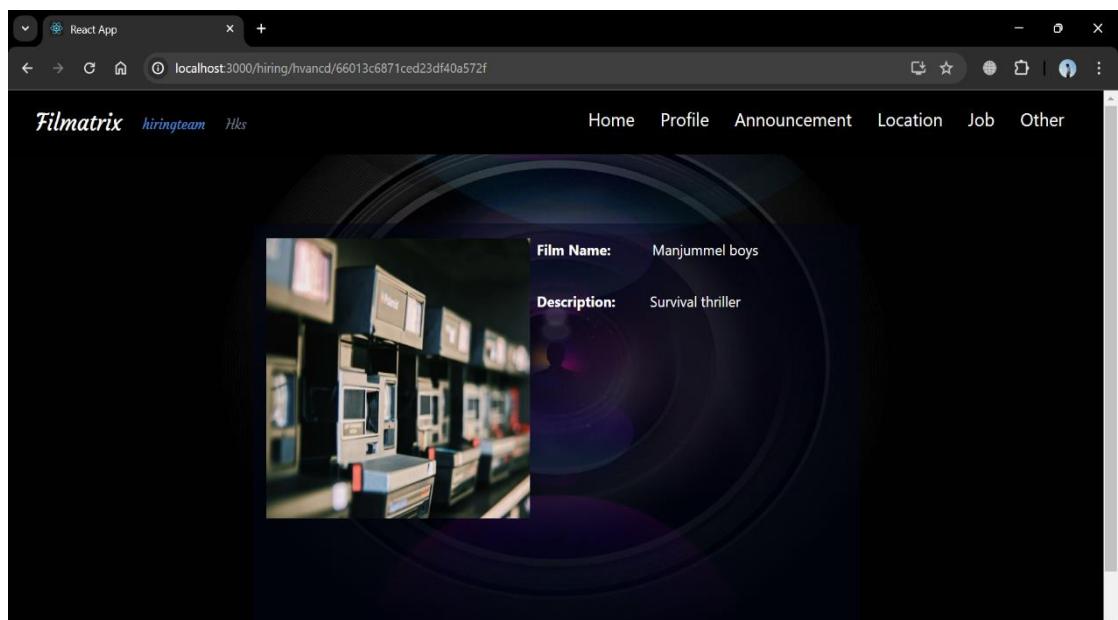
Hiring team view profile

A screenshot of a web browser showing the Filmatrix hiring team view profile page. The URL in the address bar is 'localhost:3000/hiring/hviewprofile'. The page has a dark theme with a circular purple and black background graphic. It displays a form for updating a profile. The fields include: Company Name (input: Hks), E-mail (input: hks@gmail.com), Phone (input: 8893564429), Address (input: Mavoor, Kozhikode, Kerala, 673008), Liscence (input: 1210877.jpg), Liscence no (input: 89478843), Password (input: Hks@1234), and Confirm Password (input: Hks@1234). A 'Submit' button is located at the bottom right. The top navigation bar is identical to the home page, with links for Home, Profile, Announcement, Location, Job, and Other, and links for 'Filmatrix', 'hiringteam', and 'Hks' on the left.

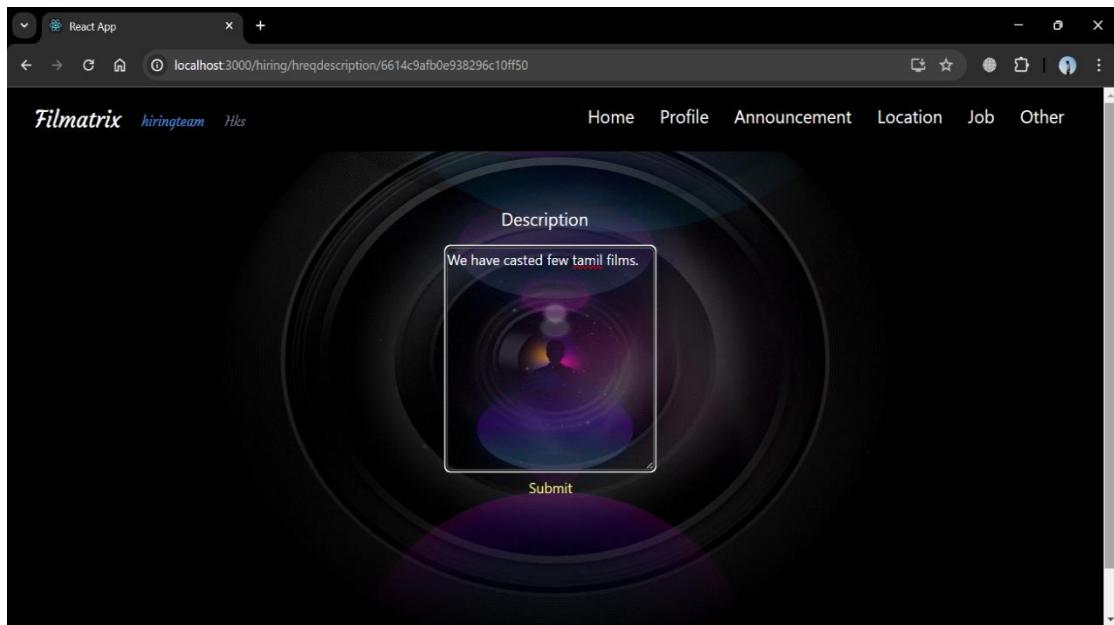
Hiring team view announcements



Hiring team view announcement details



Hiring team add description for film application

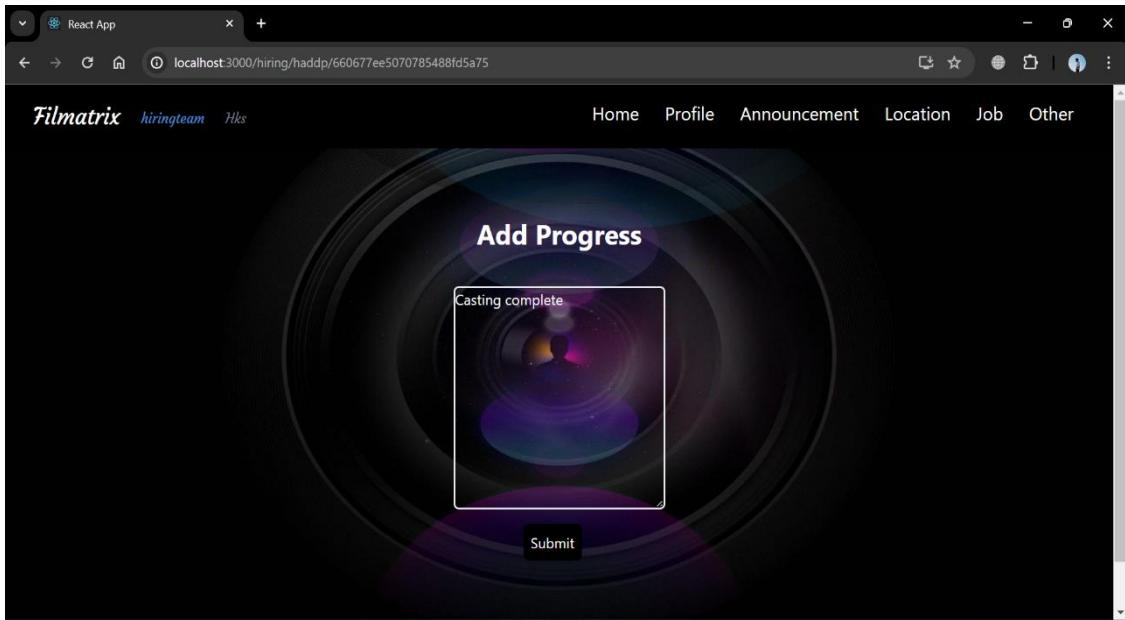


Hiring team view hiring request status

A screenshot of a web browser window titled "React App". The address bar shows "localhost:3000/hiring/hancst". The page header includes "Filmatrix", "hiringteam", and "Hks". A navigation bar with links "Home", "Profile", "Announcement", "Location", "Job", and "Other" is visible. The main content area has a dark background with a circular purple and blue lens flare effect. It features a search bar labeled "Search Film Name or Company Name". Below it is a table titled "REQUEST STATUS" with columns: SLNO, FILM NAME, FILM COMPANY NAME, STATUS, and PROGRESS. Two rows of data are shown:

SLNO	FILM NAME	FILM COMPANY NAME	STATUS	PROGRESS
1	Goat life	Sun pictures	Accepted	Add
2	Manjummel boys	Sun pictures	Accepted	Add

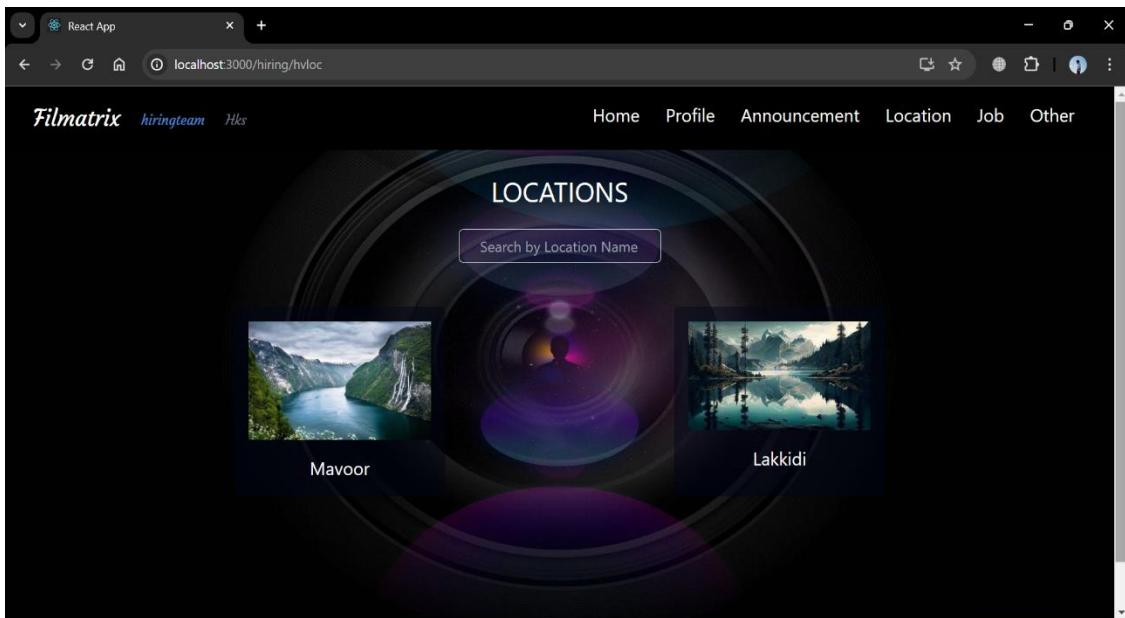
Hiring team add film progress



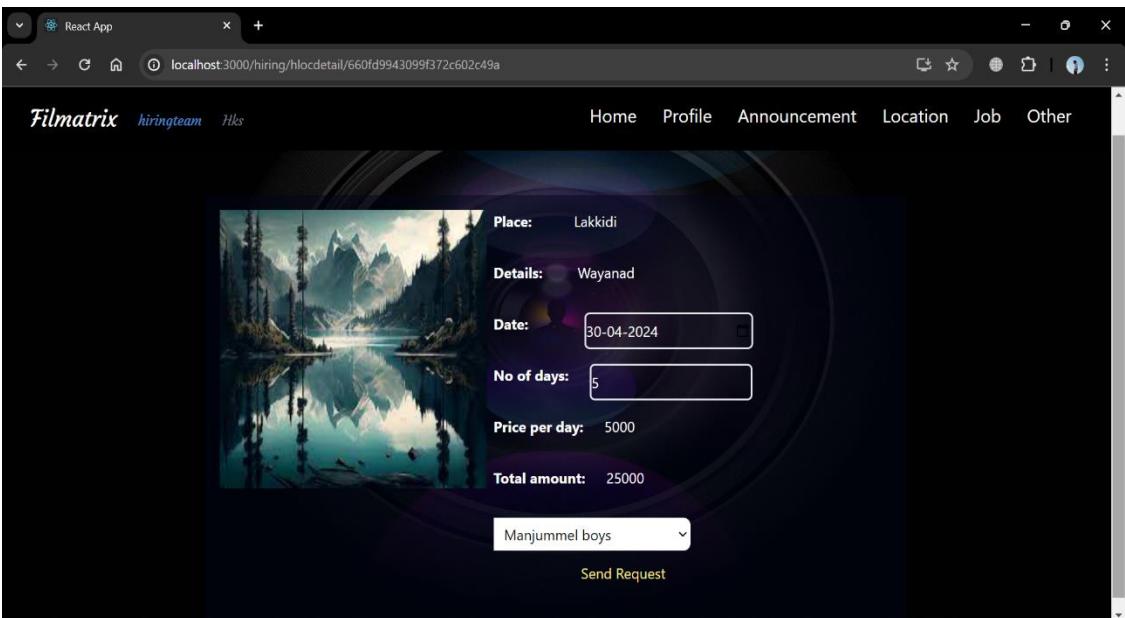
Hiring team view film progress

SLNO	FILM NAME	PROGRESS	DATE
1	Goat life	Casting done	Add 3/26/2024
2	Marjummel boys	Pre production work	Add 3/29/2024

Hiring team view locations



Hiring team send location booking request to film company



Hiring team view location request status

SLNO	FILM NAME	PLACE	STATUS	
1	Goat life	Lakkidi	Pending	
2	Goat life	Lakkidi	Pending	
3	Manjummel boys	Lakkidi	Accepted	Book
4	Manjummel boys	Lakkidi	Pending	

Hiring team add payment

Amount: 10000

Holder Name: Kiran

Card Number: 8847993037884499

MM/YY: 07/25

CVC: 771

Pay

Hiring team view location booking status

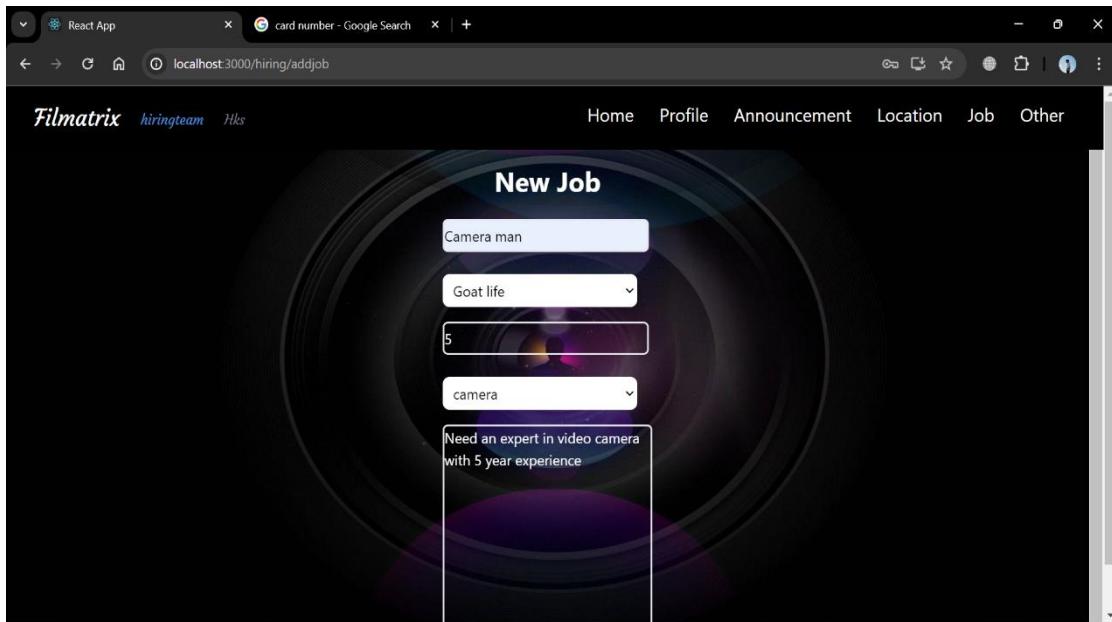
SLNO	FILM NAME	LOCATION	STATUS	PAYMENT STATUS	FEEDBACK
1	Goat life	Lakkidi	Accepted	Paid	Add
2	Goat life	Lakkidi	Accepted	Paid	Add
3	Goat life	Lakkidi	Accepted	Pending	PAY Add
4	Manjummel boys	Lakkidi	Pending	Pending	

Hiring team add location feedback

Good place for shooting

Submit

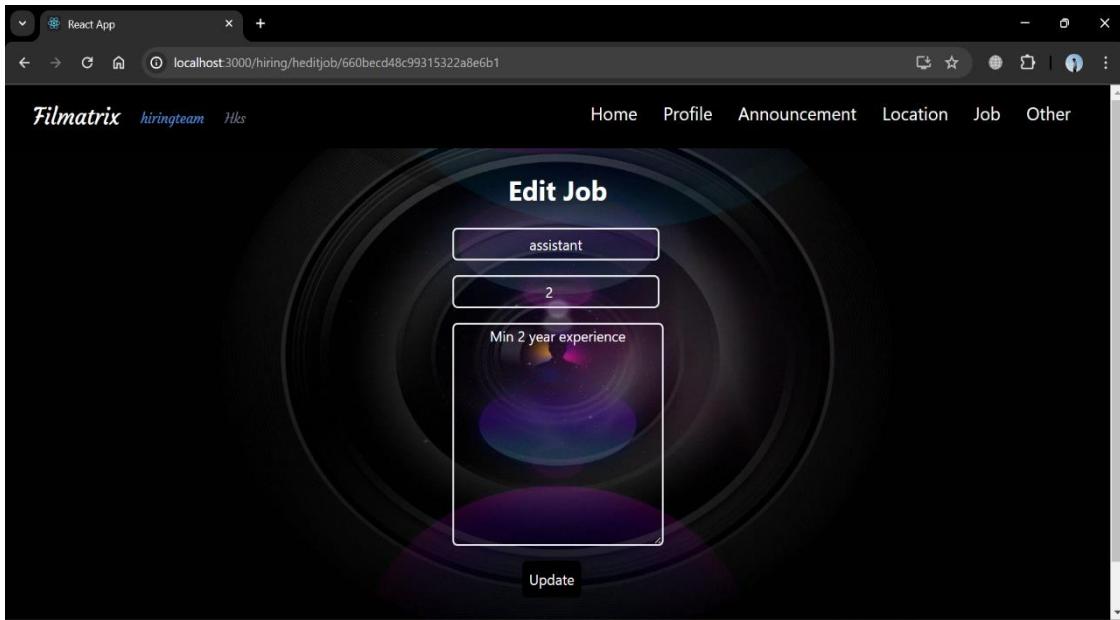
Hiring team add job vacancies



Hiring team view job vacancies

SLNO	FILM NAME	JOB	VACANCY	DESCRIPTION	DATE	EDIT	DELETE
1	Goat life	assistant	2	Min 2 year experience	4/2/2024	Edit	Delete
2	Goat life	Editor	4	2 years experience	4/9/2024	Edit	Delete
3	Manjummel boys	editor	3	4 years experience	4/24/2024	Edit	Delete

Hiring team edit job

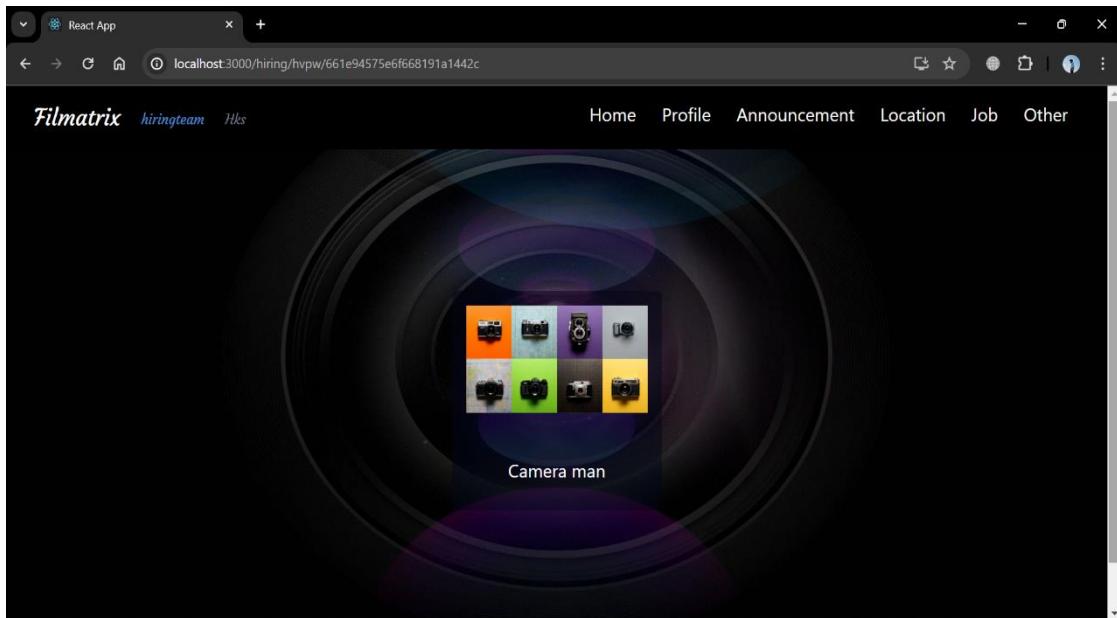


Hiring team view job request

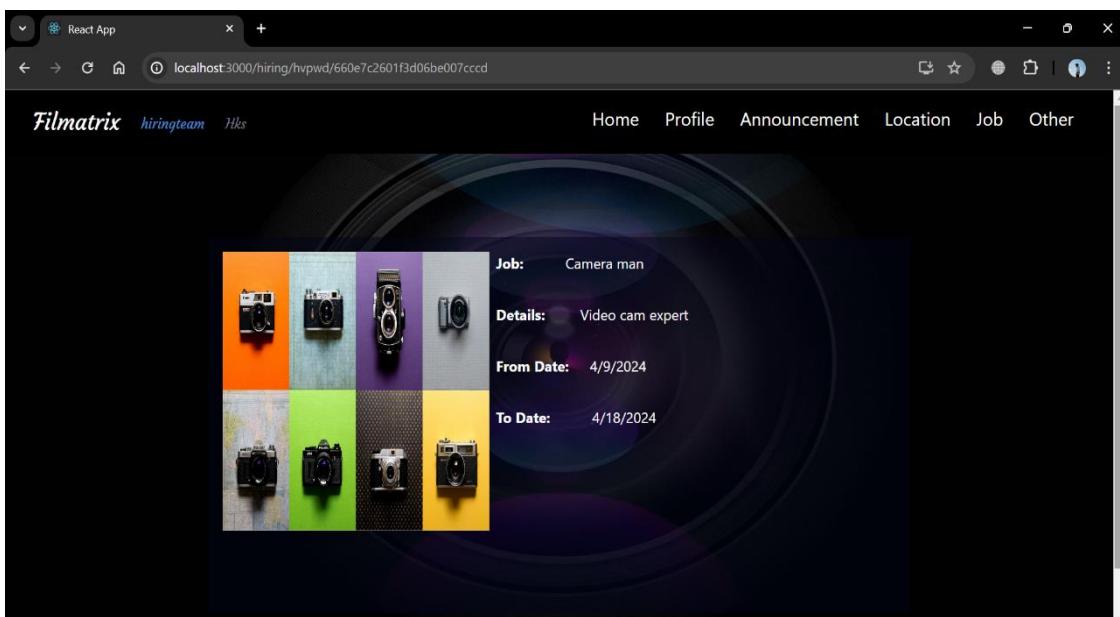
A screenshot of a web browser showing the 'JOB SEEKERS' page. The URL is `localhost:3000/hiring/hskreq`. The page has a dark background with a circular purple and blue gradient design. At the top, there's a navigation bar with links: Home, Profile, Announcement, Location, Job, and Other. Below the navigation, the title 'JOB SEEKERS' is centered above a table. The table displays four rows of data:

SLNO	FILM NAME	JOB	SEEKER NAME	STATUS	VACANCY	DETAILS	DATE
1	Goat life	assistant	Rih	Accepted	2	More	4/4/2024
2	Goat life	assistant	Sonu	Accepted	2	More	4/10/2024
3	Goat life	Editor	Sonu	Rejected	4	More	4/10/2024
4	Manjummel boys	editor	Nikhil	Pending	3	More	4/25/2024

Hiring team view previous works



Hiring team view previous work details



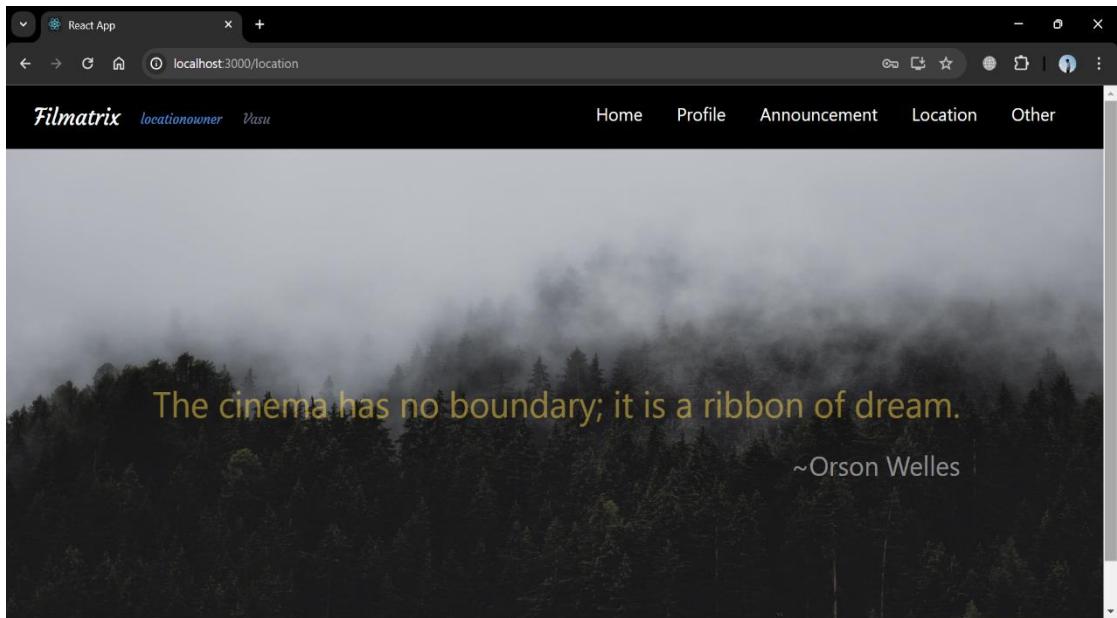
Hiring team view film progress

SLNO	FILM NAME	PROGRESS	DATE
1	Goat life	Casting done	Add 3/26/2024
2	Manjummel boys	Pre production work	Add 3/29/2024

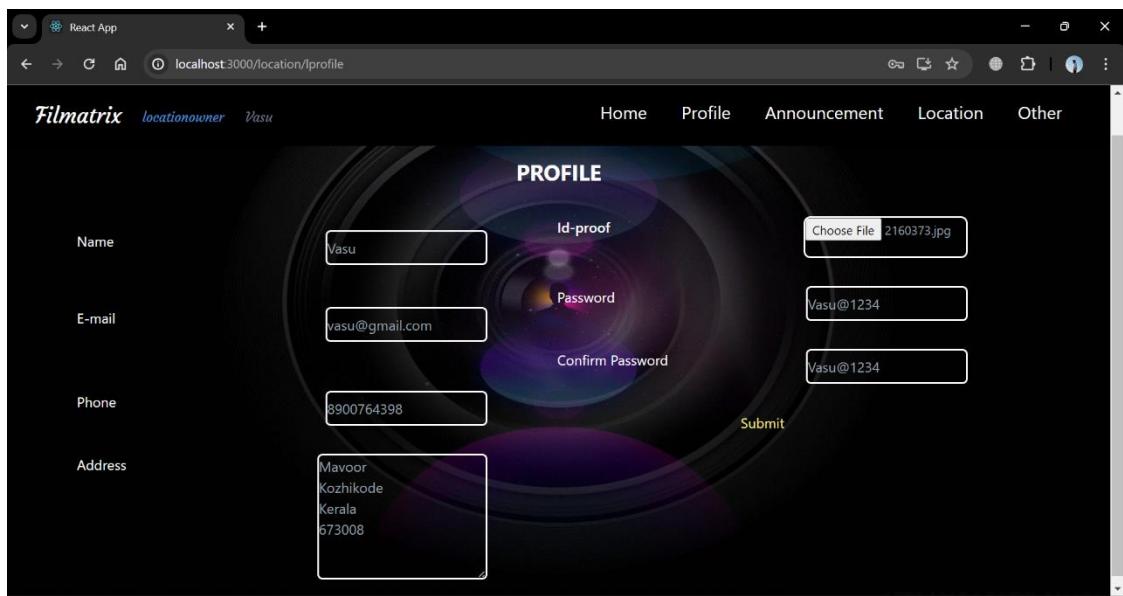
Hiring team view feedback

SLNO	FILM NAME	FILM COMPANY	FEEDBACK
1	Goat life	Sun pictures	Good
2	Manjummel boys	Sun pictures	Good

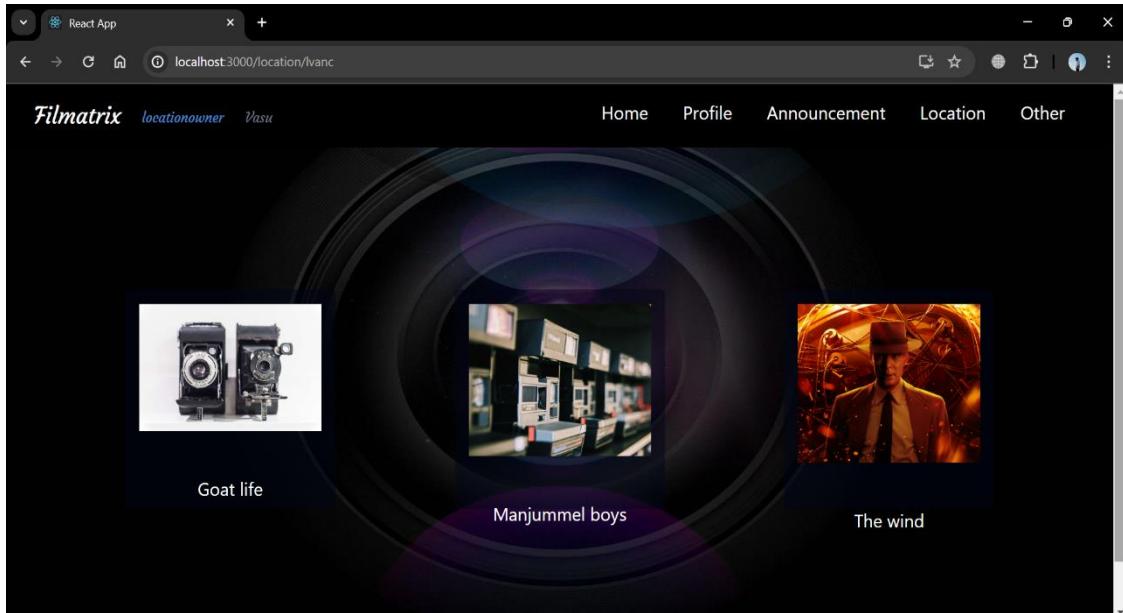
Location owner home page



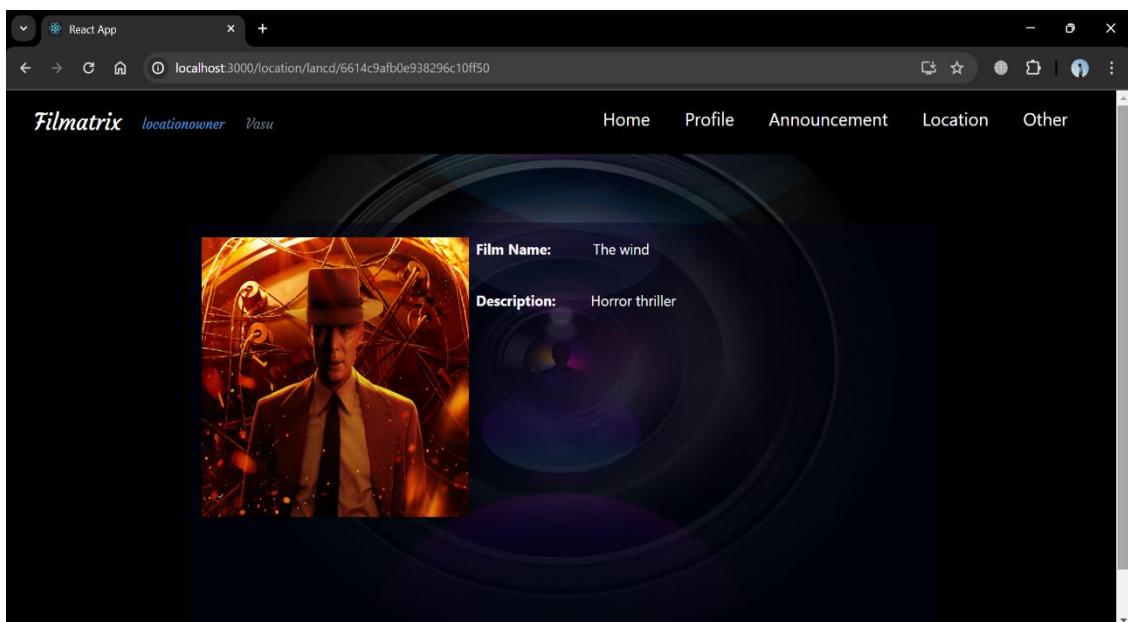
Location owner view profile



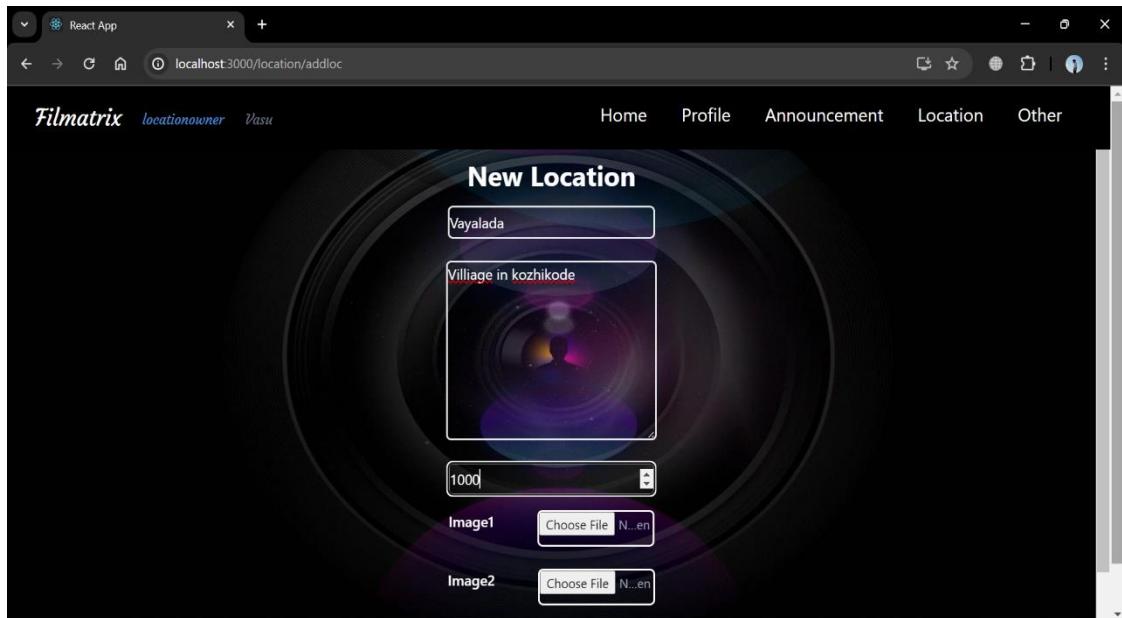
Location owner view announcements



Location owner view announcement details



Location owner add locations

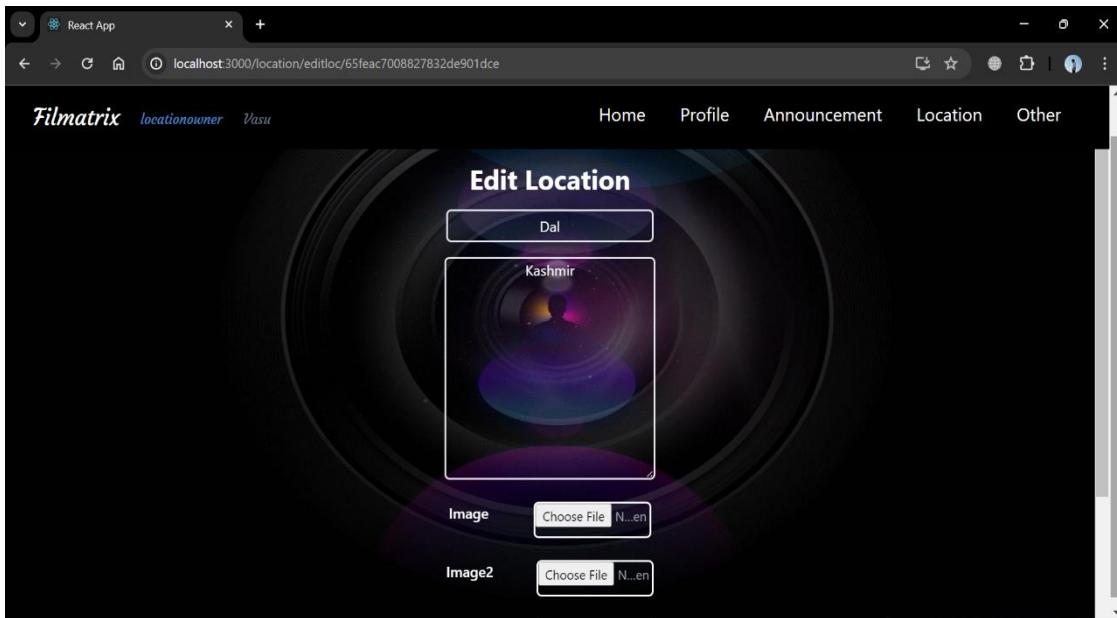


Location owner view locations

The screenshot shows a 'VIEW LOCATION' page on the same dark-themed application. The title 'VIEW LOCATION' is at the top. Below it is a table with the following data:

SLNO	LOCATION NAME	DESCRIPTION	STATUS	IMAGE	Actions
1	dal	Kashmir	Rejected		Edit Delete
2	Mavoor	Kozhikode	Accepted		Edit Delete
3	Lakkidi	Wayanad	Accepted		Edit Delete

Location owner edit location



Location owner view bookings

The screenshot shows a web browser window titled 'React App' with the URL 'localhost:3000/location/lbkreq'. The page is titled 'LOCATION BOOKING' and displays a table of booking requests. The columns are: SLNO, LOCATION, HIRING TEAM NAME, EMAIL, PHONE NO, FROM DATE, NO OF DAYS, STATUS, and PAYMENT. There are four rows of data:

SLNO	LOCATION	HIRING TEAM NAME	EMAIL	PHONE NO	FROM DATE	NO OF DAYS	STATUS	PAYMENT
1	Lakkidi	Hks	hks@gmail.com	8893564429	4/25/2024	2	Accepted	More
2	Lakkidi	Hks	hks@gmail.com	8893564429	4/17/2024	2	Accepted	More
3	Lakkidi	Hks	hks@gmail.com	8893564429	4/17/2024	2	Accepted	More
4	Lakkidi	Hks	hks@gmail.com	8893564429	4/17/2024	5	Pending	More

Location owner view payment

A screenshot of a web browser displaying a payment record. The title bar shows 'localhost:3000/location/lvpay'. The page header includes the 'Filmatrix' logo, user information ('locationowner Vasu'), and navigation links ('Home', 'Profile', 'Announcement', 'Location', 'Other'). The main content area has a dark background with concentric circles and features a large 'VIEW PAYMENT' heading. Below it is a table with the following data:

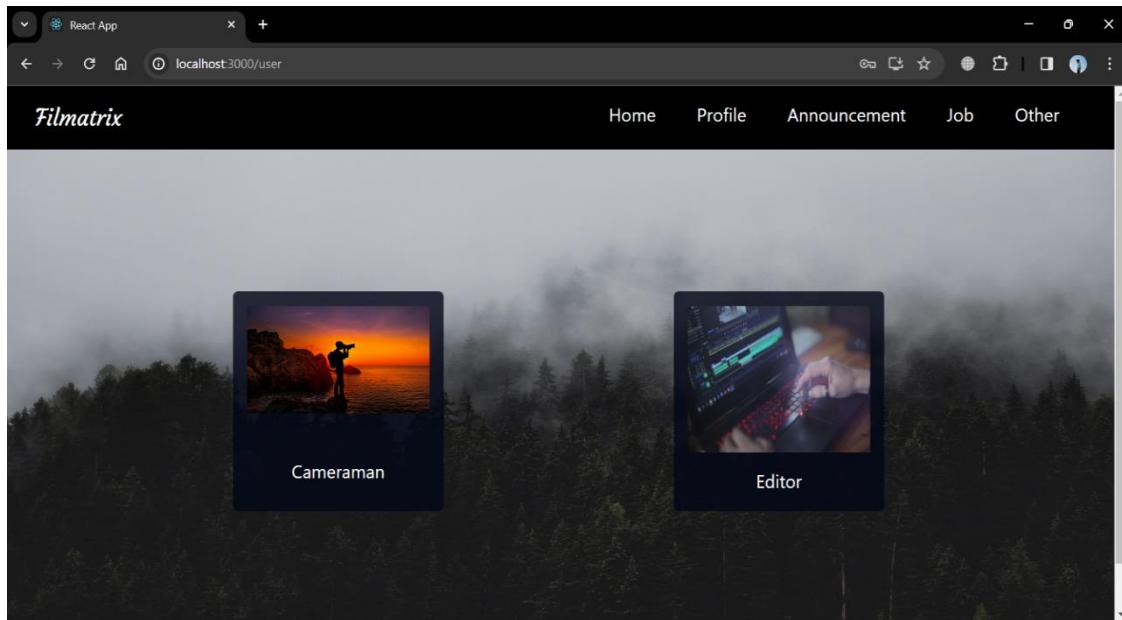
SLNO	FILM NAME	HIRING NAME	AMOUNT	STATUS
1	Goat life	Hks	10000	Paid

Location owner view feedback

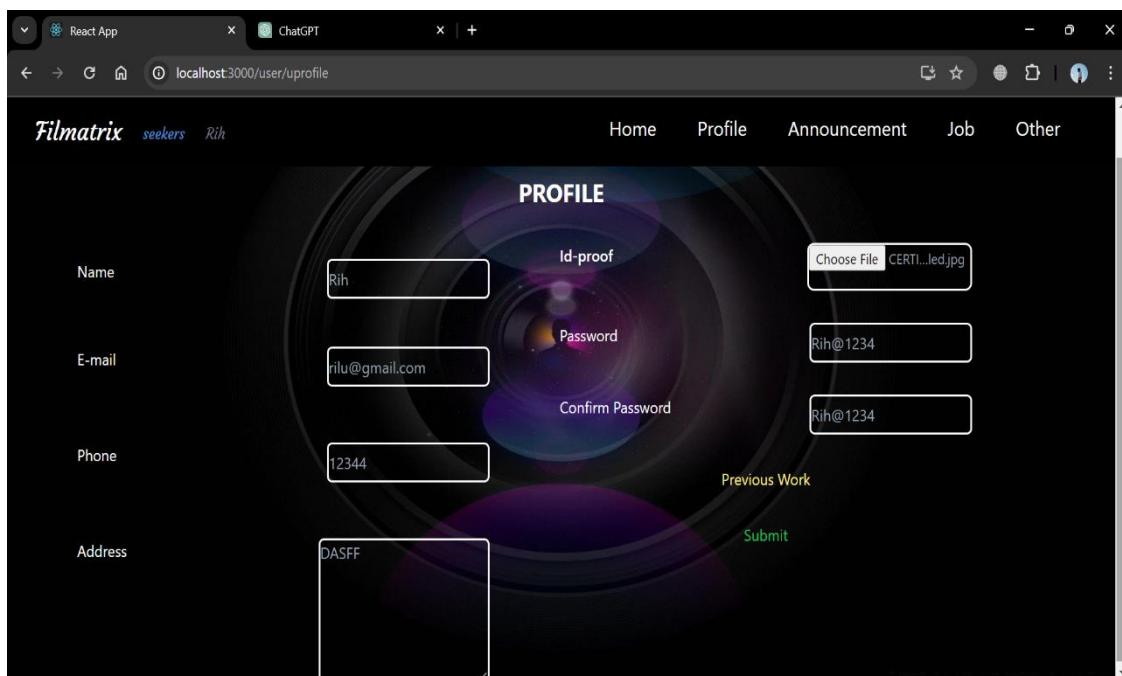
A screenshot of a web browser displaying feedback records. The title bar shows 'localhost:3000/location/lvfd'. The page header includes the 'Filmatrix' logo, user information ('locationowner Vasu'), and navigation links ('Home', 'Profile', 'Announcement', 'Location', 'Other'). The main content area has a dark background with concentric circles and features a large 'VIEW FEEDBACK' heading. Below it is a table with the following data:

SLNO	FILM NAME	LOCATION NAME	FEEDBACK
1	Goat life	Lakkidi	Good
2	Manjummel boys	Lakkidi	No feedback

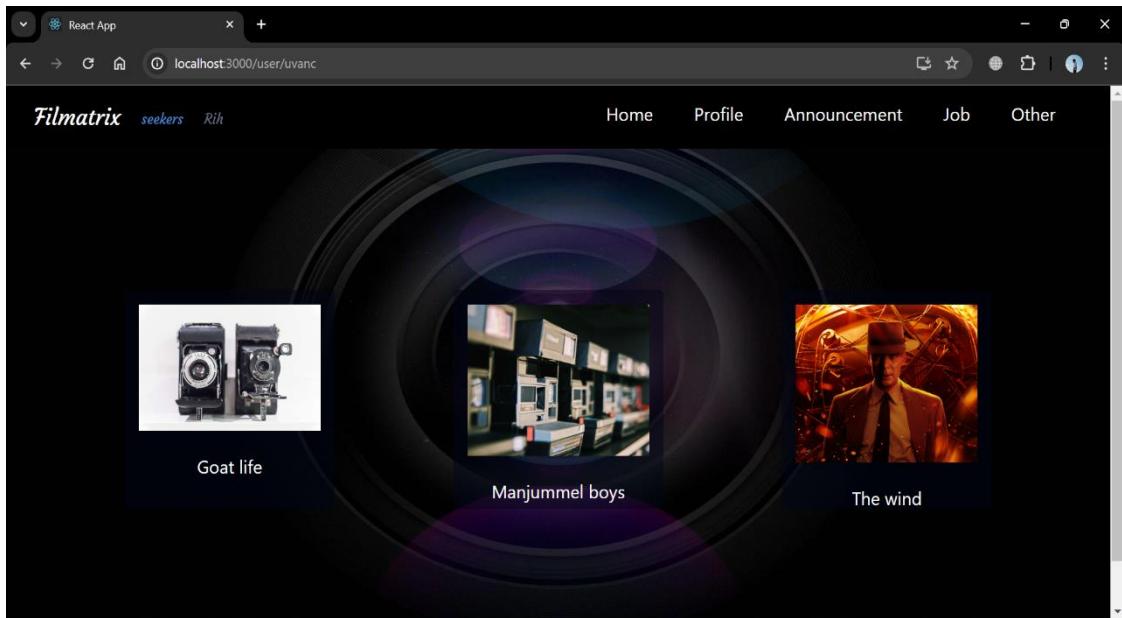
Job seekers home page



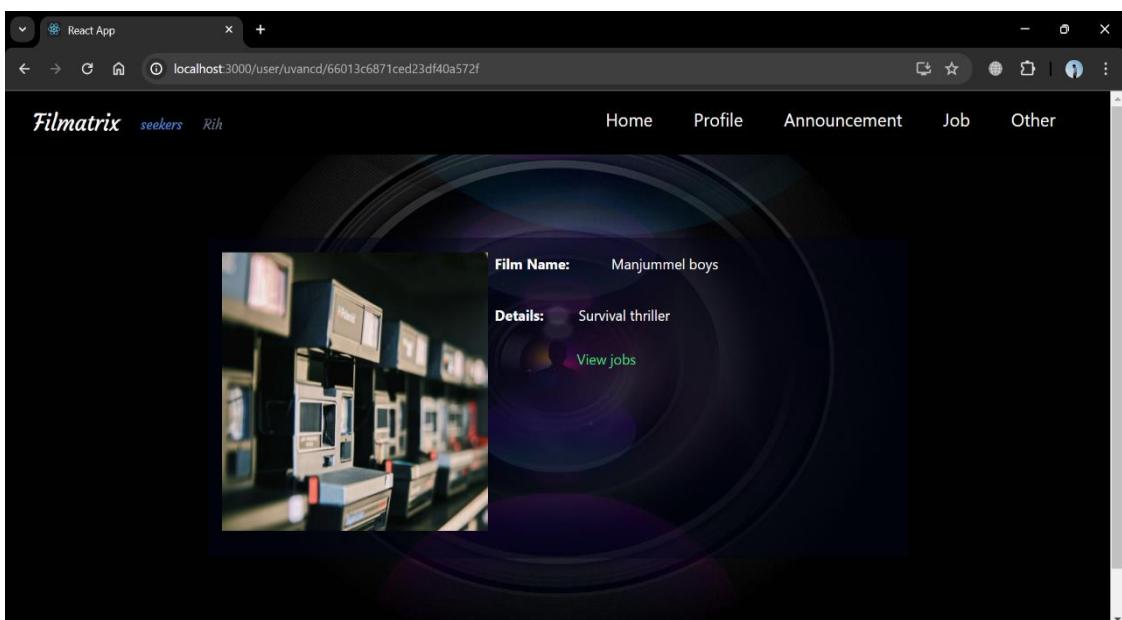
Job seekers view profile



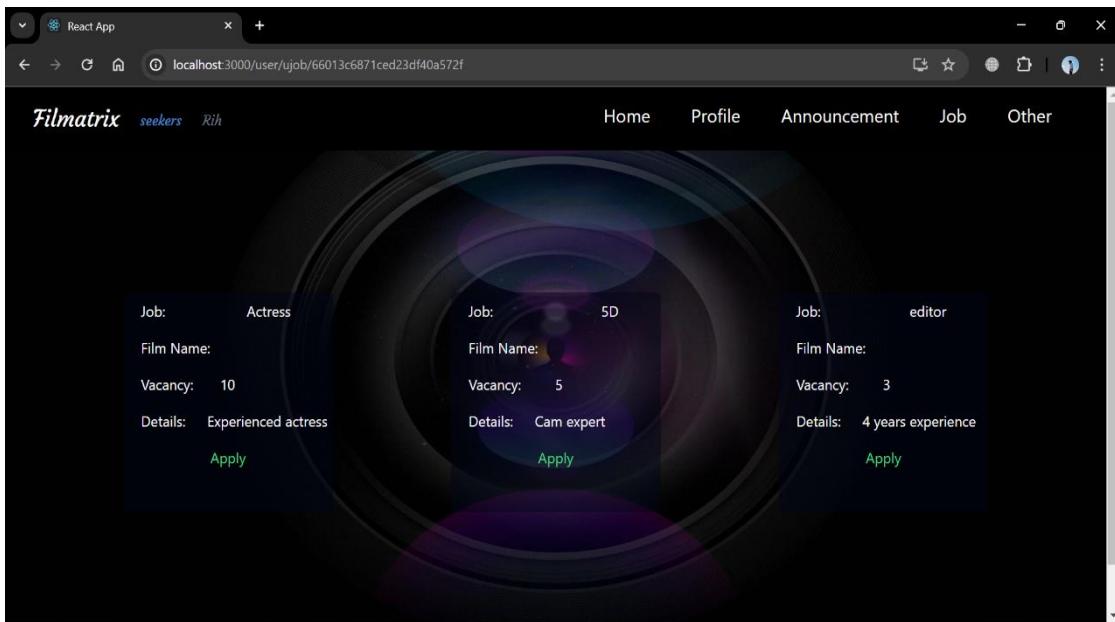
Job seekers view announcement



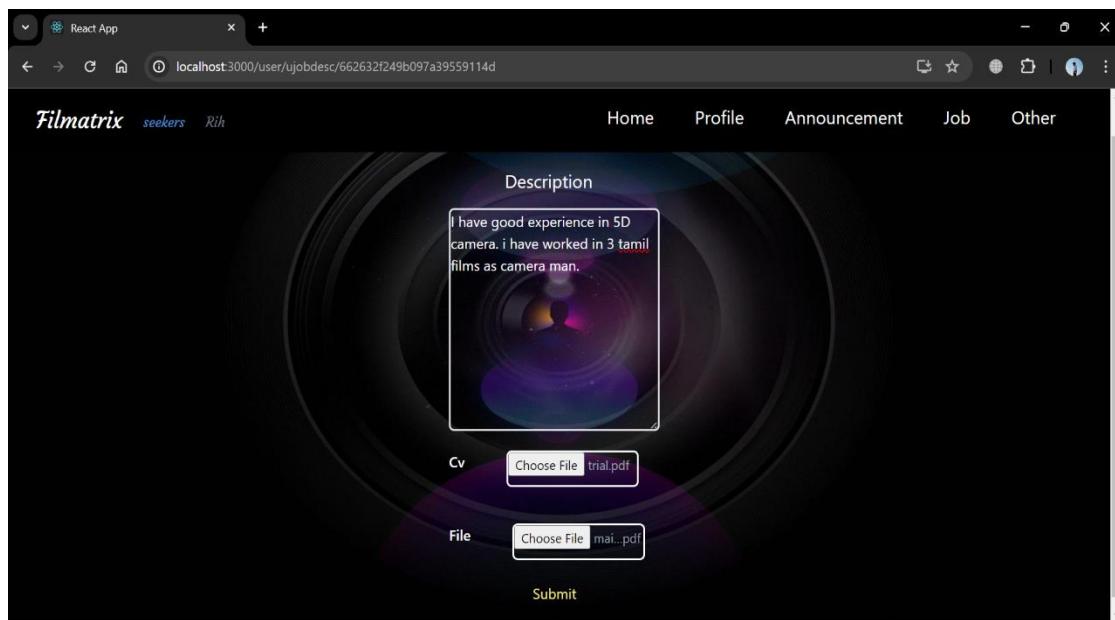
Job seekers view announcement details



Job seekers view job vacancy



Job seekers send job application



Job seekers view job request status

The screenshot shows a dark-themed web application window titled "React App" with the URL "localhost:3000/user/ujobreqst". The top navigation bar includes links for Home, Profile, Announcement, Job, and Other. The current user is identified as "seekers" and "Rih". The main content area is titled "JOB REQUEST STATUS" and displays a table of job requests:

SLNO	FILM NAME	JOB	STATUS
1	Goat life	assistant	Accepted
2	Manjummel boys	Actress	Pending

Job seekers add previous work

The screenshot shows a dark-themed web application window titled "React App" with the URL "localhost:3000/user/upw". The top navigation bar includes links for Home, Profile, Announcement, Job, and Other. The current user is identified as "seekers" and "Rih". The main content area is titled "PREVIOUS WORK" and contains a form for adding work experience:

Job:

Description:

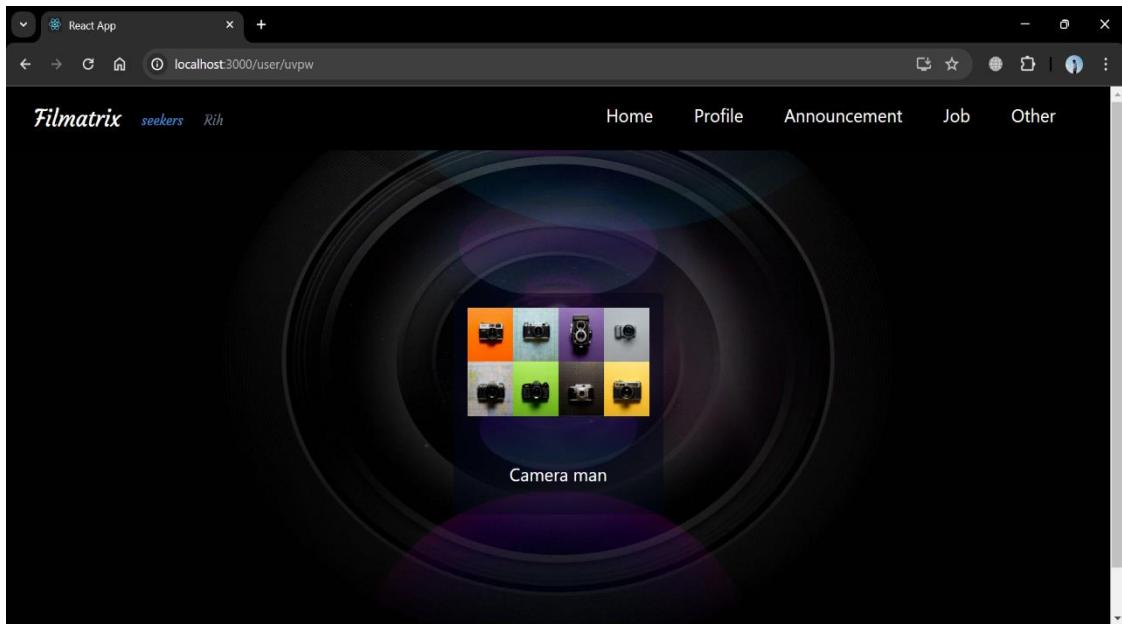
Image:

From date:

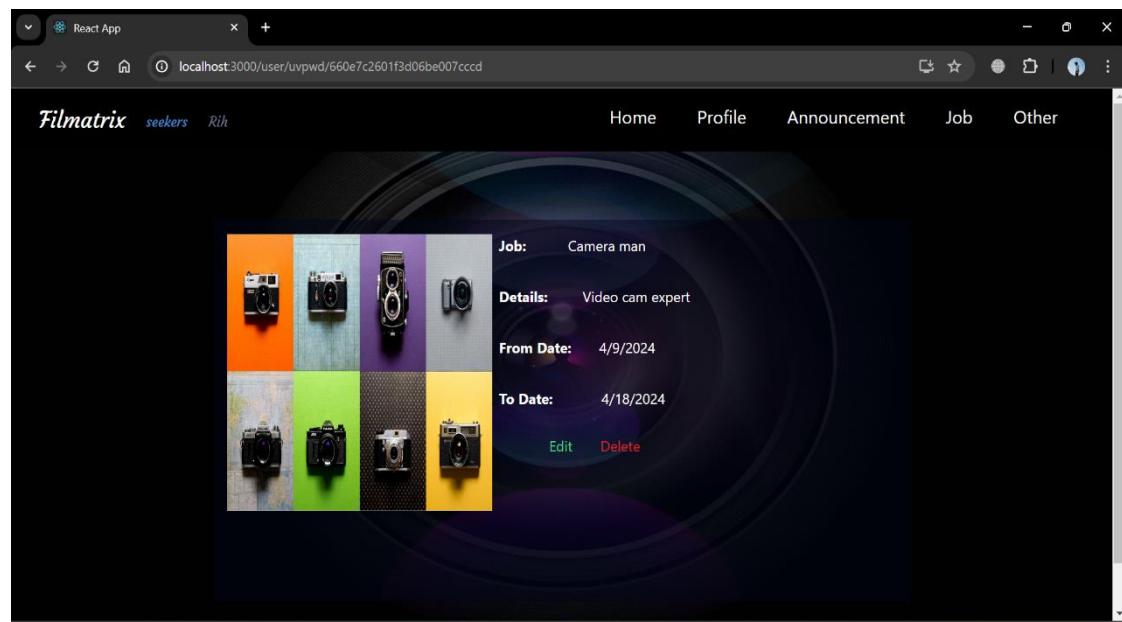
To date:

Submit

Job seekers view previous work



Job seekers view previous work details



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13.BIBLIOGRAPHY

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Books

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- [2] *Pro MERN Stack: Full Stack Web App Development with Mongo, Express, React, and Node" by Vasan Subramanian*
- [3] *Code complete: a practical handbook of software construction by Steve McConnell, Microsoft Press,2nd Edition(2004).*
- [4] *Full Stack Development with JHipster: Build scalable and maintainable web applications using the MERN stack" by Deepu K Sasidharan and Sendil Kumar N*
- [5] *Full Stack JavaScript: Learn Backbone.js, Node.js, and MongoDB" by Azat Mardan*