



MINI PROJECT REPORT
ON
“REFERRAL CONNECT”

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2024-25



DEPARTMENT OF INFORMATION TECHNOLOGY

Certificate

This is to certify that,

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have successfully completed the Mini project entitled

“ReferralConnect”, under my guidance in partial fulfilment of the requirement for the Database Management Laboratory second year in the Department of Information Technology during the Academic year 2024-25.

Date: 06/05/2025

Place: Pune

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ABSTRACT

In today's competitive environment, obtaining strong references is crucial for securing opportunities in companies, universities, scholarships, and research programs. However, traditional methods of connecting with referrers, such as through LinkedIn or personal outreach, are often inefficient and unstructured.

ReferralConnect is a web-based application designed to streamline and simplify the reference-seeking process for students, graduates, and professionals. The platform allows users to create detailed profiles, explore categorized opportunities, and directly request references from registered referrers through an automated and organized system. Using technologies like JSP, Servlets, and MySQL, ReferralConnect ensures secure user management, personalized reference requests, and real-time tracking of request statuses.

For professionals, it offers an efficient way to manage incoming requests, review candidate profiles, and maintain reference histories.

Overall, ReferralConnect enhances transparency, saves time for both seekers and referrers, and improves the efficiency of professional networking for references, bridging a significant gap in current professional development ecosystems.

CONTENTS

S. No.	Title	Page No.
1	Introduction	06
2	Scope	07
3	Functional Requirements of the System	08
3.1	Possible Users of the System	
4	Technologies Used	10
4.1	Back-end Technology	
4.2	Database	
4.3	Front-end	
5	E-R Diagram	11
6	Normalization of Tables	12
7	Data Dictionary	13
8	Business Logic Implemented	16
9	Screenshots	18
10	Future Enhancements	23
11	Conclusion	24
12	References	25

1. INTRODUCTION

Securing professional references has become an essential part of advancing in careers, higher education, scholarships, and research opportunities. Despite the critical importance of references, the traditional process for seeking and providing them remains inefficient, often relying on informal platforms such as email or LinkedIn messaging. These methods are not only time-consuming but also lack a standardized way to track and manage requests.

ReferralConnect is developed to address these challenges by providing a dedicated platform that connects students, graduates, and working professionals with experienced referrers across various domains. The system offers users a streamlined process to request recommendations tailored to specific needs — whether for company placements, university admissions, scholarship applications, or research opportunities.

By automating much of the reference-seeking workflow — including profile-based request generation, request status tracking, and referrer management — ReferralConnect enhances the experience for both seekers and providers. It aims to create a trusted, organized, and accessible ecosystem where professional references can be requested, managed, and delivered efficiently.

This project leverages JSP, Servlets, Bootstrap, and MySQL to build a robust, secure, and user-friendly web application, ultimately bridging the gap between aspirants and potential referrers in a professional, systematic manner.

2. SCOPE

The **ReferralConnect** project is designed to create an efficient digital platform where users can easily seek and manage professional references across multiple categories. The application focuses on four major domains:

- **Company References** (for job placements and internships)
- **University Admissions** (for undergraduate and postgraduate programs)
- **Scholarships** (for financial aid and grants)
- **Research Opportunities** (for Ph.D. admissions, thesis projects, and research programs)

The scope of this project includes:

- **User Registration and Authentication:** Secure signup/login system for both reference seekers and referrers.
- **Profile Management:** Allowing users and referrers to create and update professional profiles with education, experience, and achievements.
- **Category-based Exploration:** Enabling seekers to browse opportunities categorized by institution, company, or research domain.
- **Automated Request System:** Auto-generating recommendation requests based on user profile data to save time and ensure professionalism.
- **Status Tracking:** Monitoring the progress of each referral request (e.g., Pending, Accepted, Rejected).
- **Referrer Management:** Giving referrers an organized view of incoming requests, their limits, and past activities.
- **Data Privacy and Security:** Protecting user information and communications through database management and access controls.

This project primarily targets **students, graduates, scholarship aspirants, and early-career professionals** seeking recommendations, as well as **industry experts, professors, and research guides** willing to offer referrals.

3. FUNCTIONAL REQUIREMENTS OF THE SYSTEM

The ReferralConnect platform must fulfil the following functional requirements to ensure smooth operation and user satisfaction:

- Allow users to register and authenticate securely.
- Enable profile creation and updates for both seekers and referrers.
- Provide category-based exploration (Company, University, Scholarships, Research).
- Allow seekers to view available referrers under each category.
- Generate automated referral request messages based on seeker profiles.
- Track the status of each referral request.
- Ensure data privacy and controlled access to sensitive user information.
- Provide administrative access for monitoring the system and handling disputes.

3.1 POSSIBLE USERS OF THE SYSTEM WITH PRIVILEGES

User Type	Privileges
Reference Seekers (Students/Professionals)	<ul style="list-style-type: none">- Register/Login- Create and update profile (education, resume, etc.)- Explore recommendation categories- Send referral requests- Track request status- View history of past referrals

**Referrers (Industry
Professionals/Professors)**

- Register/Login
- Create and update professional profile
- Set referral limits
- Accept or decline incoming referral requests
- View and manage referral history

4. TECHNOLOGIES USED

4.1 Back-end Technology:

- **Java (JSP and Servlets):**
The core backend logic is implemented using JavaServer Pages (JSP) and Servlets, enabling dynamic page rendering, session management, and handling user interactions securely.
- **Apache Tomcat:**
Tomcat serves as the web server and servlet container to deploy and run the web application.

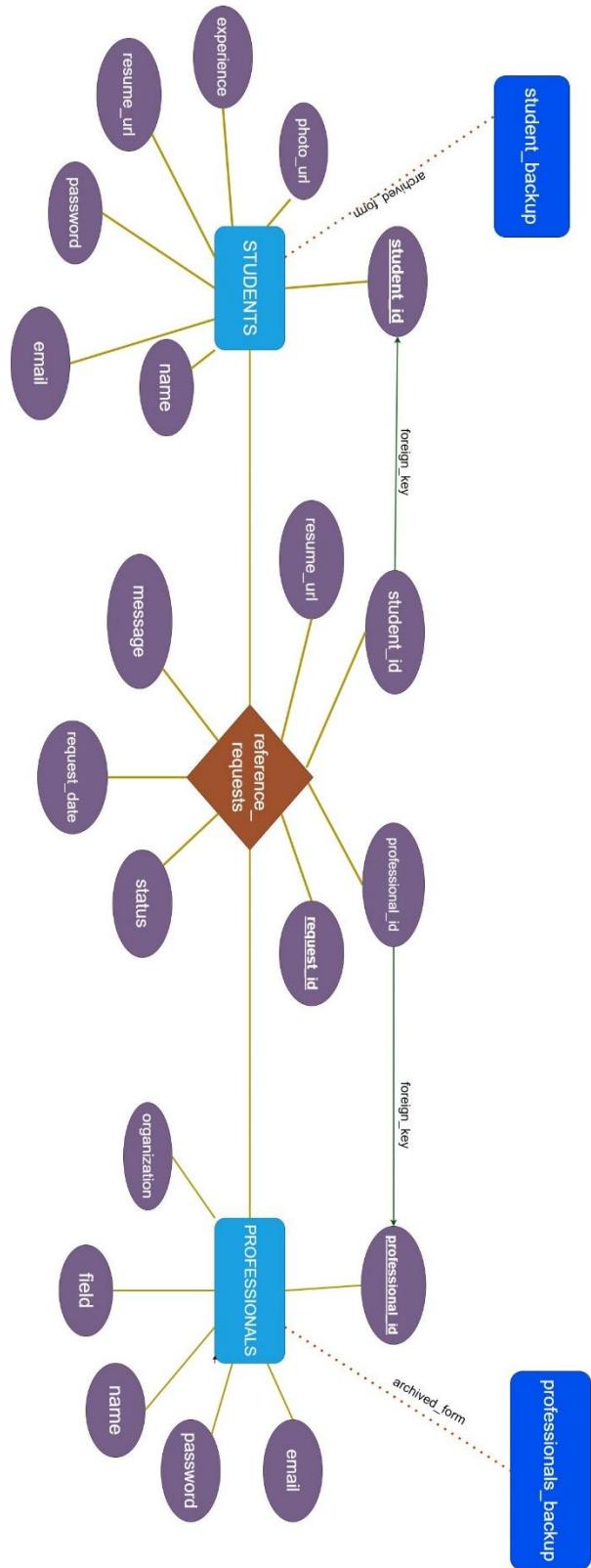
4.2 Database:

- **MySQL:**
MySQL is used as the relational database management system to store user profiles, referral requests, referrer limits, activity history, and administrative records.

4.3 Front-end:

- **HTML5 and CSS3:**
Used for the basic structure and styling of the web pages.
- **Tailwind CSS:**
A utility-first CSS framework used for rapid UI design, ensuring a clean, responsive, and modern look.
- **Bootstrap:**
Bootstrap components may be used where needed for additional responsiveness and grid layout handling.

5. E-R DIAGRAM



6. NORMALIZATION

Table	1NF	2NF	3NF	Notes
students	✓	✓	✓	Fields are atomic; experience and photo_url are optional, but no partial or transitive dependencies.
professionals	✓	✓	✓	Atomic fields; each non-key attribute fully depends on the primary key. Clean design.
reference_requests	✓	✓	✓	Atomic fields; proper foreign keys; status as enum ensures data integrity.
students_backup	✓	✓	✓	Same as students with additional deleted_at field;
professionals_backup	✓	✓	✓	Same as professionals with deleted_at; preserves normalization for archived data.

7. DATA DICTIONARY

Table 7.1: professionals

Field	Type	Null	Key	Default	Extra
professional_id	int	NO	PRI	NULL	auto_increment
name	varchar(100)	YES		NULL	
email	varchar(100)	NO	UNI	NULL	
password	varchar(255)	NO		NULL	
organization	varchar(100)	YES		NULL	
field	varchar(100)	YES		NULL	

Table 7.2: students

Field	Type	Null	Key	Default	Extra
student_id	int	NO	PRI	NULL	auto_increment
name	varchar(100)	YES		NULL	
email	varchar(100)	NO	UNI	NULL	
password	varchar(255)	NO		NULL	
resume_url	text	YES		NULL	
experience	text	YES		NULL	
photo_url	text	YES		NULL	

Table 7.3: reference_requests

Field	Type	Null	Key	Default	Extra
request_id	int	NO	PRI	NULL	auto_increment
student_id	int	YES	MUL	NULL	
professional_id	int	YES	MUL	NULL	
status	enum('Pending','Accepted','Rejected')	YES		Pending	
request_date	datetime	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED
message	text	YES		NULL	
resume_url	varchar(255)	YES		NULL	

Table 7.4: professionals_backup

Field	Type	Null	Key	Default	Extra
professional_id	int	NO	PRI	NULL	auto_increment
name	varchar(100)	YES		NULL	
email	varchar(100)	NO	UNI	NULL	
password	varchar(255)	NO		NULL	
organization	varchar(100)	YES		NULL	
field	varchar(100)	YES		NULL	
deleted_at	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED

Table 7.5: students_backup

Field	Type	Null	Key	Default	Extra
student_id	int	NO	PRI	NULL	auto_increment
name	varchar(100)	YES		NULL	
email	varchar(100)	NO	UNI	NULL	
password	varchar(255)	NO		NULL	
resume_url	text	YES		NULL	
experience	text	YES		NULL	
photo_url	text	YES		NULL	
deleted_at	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED

8. BUSINESS LOGIC IMPLEMENTED

The ReferralConnect platform applies specific business rules and processes to efficiently connect reference seekers (students and professionals) with referrers (industry professionals, professors, etc.). Key business logic modules include:

8.1 User Registration and Authentication

- New users (both seekers and referrers) must register with validated credentials.
- Secure password validation rules are enforced (minimum length, special character requirements).
- Users must select their role (Seeker or Referrer) during registration.
- Session management ensures only authenticated users can access their respective dashboards.

8.2 Profile Management

- Seekers can update their profiles with academic history, resumes, goals, and experience details.
- Referrers maintain professional profiles including organization, designation, fields of expertise, and maximum references they can provide.

8.3 Referral Request System

- Seekers can browse categorized lists (Company References, University Admissions, Scholarships, Research) and request referrals.
- Each request automatically pulls the seeker's profile data and generates a draft message for the referrer.
- Referrers can Accept, Reject, or Hold a referral request based on profile evaluation.

8.4 Request Status Tracking

- Each referral request is tracked with a status field: Pending, Accepted, Rejected, Completed.
- Seekers can view real-time updates on their request statuses in the dashboard.

8.5 Privacy and Data Protection

- Personal information is visible only to connected users during active referral communication.
- Automatic anonymization can be applied once a referral process is completed or rejected.

9. SCREENSHOTS

The image displays three screenshots of the Referral Connect website, showing its homepage, a service page for requesting referrals, and a how-it-works page.

Home Page:

- Header:** Referral Connect
- Section:** Unlock Opportunities Through Professional Connections
- Text:** Bridge the gap between ambition and achievement with personalized referrals from industry professionals.
- Buttons:** Register as Student, Register as Professional
- Image:** Two people working together at a desk with laptops.

Request Referrals Page:

- Header:** Referral Connect
- Section:** What Referrals Can You Request?
- Options:**
 - Job Referrals:** Get referred to top companies and land interviews at your dream workplaces through our professional network.
 - University Admissions:** Connect with alumni who can provide recommendations and guidance for your academic applications.
 - Scholarships:** Find professionals who can endorse you for competitive scholarship programs and funding opportunities.
 - Mentorship:** Build relationships with experienced professionals who can guide your career development.

How It Works Page:

- Header:** Referral Connect
- Section:** How It Works
- Steps:**
 - Create Your Profile:** Students showcase their achievements and goals. Professionals highlight their expertise and availability.
 - Find Connections:** Discover and connect with the right professionals or talented students in your field.
 - Request Referrals:** Easily send and manage referral requests through our streamlined platform.
- Section:** Success Stories

The screenshot shows the Referral Connect homepage with a blue header bar. Below it, a section titled "Success Stories" displays three testimonial cards. Each card features a profile picture, a name, and a title. The first card is for Nithita Kale, a Software Engineer. The second is for Dr. Sneha Thombore, a Senior Data Scientist. The third is for Projakta Patil, a TY Btech Student.

Success Stories

"Referral Connect helped me secure three interviews at top tech companies through professional referrals. I landed my dream job at Google!"
Nithita Kale, Software Engineer

"As a professional, I enjoy mentoring students through this platform. It's rewarding to help the next generation succeed in their careers."
Dr. Sneha Thombore, Senior Data Scientist

"The scholarship referral I received through this platform completely changed my academic journey. Forever grateful for this community!"
Projakta Patil, TY Btech Student

The screenshot shows the Referral Connect homepage with a large blue banner at the top containing the text "Ready to Transform Your Career?". Below the banner, there is a sub-headline: "Join thousands of students and professionals who are already benefiting from meaningful connections." Two buttons are visible: "Join as Student" and "Join as Professional". At the bottom of the page, there is a footer section with links to social media and contact information.

Ready to Transform Your Career?

Join thousands of students and professionals who are already benefiting from meaningful connections.

[Join as Student](#) [Join as Professional](#)

Referral Connect
Connecting students with professionals for recommendations that matter.

Quick Links

- Home
- Features
- How It Works
- Testimonials

Resources

- FAQ
- Career Tips
- Success Stories

Contact Us

- referralconnect@referralconnect.com
- +91 9511792224
- Cummins College Rd, Karvenagar, Pune, Maharashtra 411052

The screenshot shows the Referral Connect Frequently Asked Questions page. The main heading is "Frequently Asked Questions". A sub-instruction says "If you have more questions, reach out to us at support@referralconnect.com". Below this, there are tabs for "Reference Seekers", "Referrers", "Data & Privacy", and "General". A list of frequently asked questions is shown, each with a collapse/expand arrow:

- How do I create a reference request?
- How do I increase my chances of getting a referral?
- What kind of professionals can I reach out to?
- Is there a limit to how many requests I can send?
- Can I withdraw a referral request?
- What happens after I'm referred?

The image displays three separate browser windows showing registration forms:

- Student Registration** (localhost:8080/ReferralConnect/registerStudent.jsp): This form includes fields for Name, Email, Password (with a requirement of at least 8 characters, containing uppercase, lowercase, and numbers), Resume URL, Experience, and Photo URL, followed by a blue "Register" button.
- Professional Registration** (localhost:8080/ReferralConnect/registerProfessional.jsp): This form includes fields for Name, Email, Password (with a requirement of at least 8 characters, containing uppercase, lowercase, and numbers), Organization, Field, and a blue "Register" button. A copyright notice at the bottom reads "© 2025 Referral Connect. All rights reserved."
- Login** (localhost:8080/ReferralConnect/login.jsp): This form includes fields for Email, Password, and Role (with a dropdown menu showing "Student"), followed by a blue "Login" button. A copyright notice at the bottom reads "© 2025 Referral Connect. All rights reserved."

The image displays three screenshots of the Referral Connect application, showing the student dashboard, the process of sending a reference request, and the list of sent requests.

Student Dashboard (localhost:8080/ReferralConnect/studentDashboard.jsp):

Welcome back, Siwet Tomar! Manage your referral connections

- Update Profile:** Keep your profile updated. Buttons: Edit Profile, Delete Profile.
- New Request:** Send a new referral request. Button: Send Request.
- View Requests:** Check your sent requests. Button: View Requests.

Send Reference Request (localhost:8080/ReferralConnect/sendRequest.jsp):

Referral Connect Logout

Send Reference Request Form:

Select Professional: Sneha Thombre - Information Technology

Message:

```

Hello Ma'am,
I am Siwet Tomar.
I am a passionate engineer, looking forward to completing my MS in cybersecurity from NYU, Manhattan, New York, USA.
It would be a very helpful if you would give me a recommendation/referral letter.
You can find my resume on my profile, along with my skillsets.
I hope you consider me.
Thank you!

```

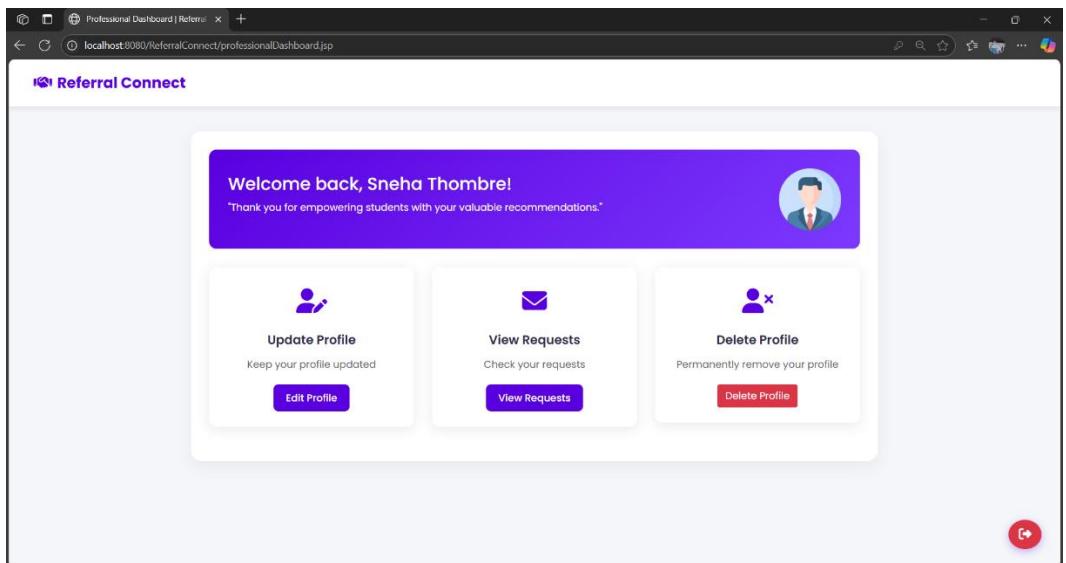
Send Request

Sent Requests (localhost:8080/ReferralConnect/viewSentRequests.jsp):

Referral Connect Logout

Your Sent Reference Requests:

Professional	Message	Status	Request Date	Resume
sneha42@gmail.com	Hello Ma'am, I am Siwet Tomar. I am a passionate engineer, looking forward to completing my MS in cybersecurity from NYU, Manhattan, New York, USA. It would be a very helpful if you would give me a recommendation/referral letter. You can find my resume on my profile, along with my skillsets. I hope you consider me. Thank you.	Pending	2025-05-13 20:37:44	N/A



Reference Requests Received

Student Email	Message	Resume	Status	Action
siwet.tomar@gmail.com	Hello Ma'am, I am Siwet Tomar. I am a passionate engineer, looking forward to completing my MS in cybersecurity from NYU, Manhattan, New York, USA. It would be a very helpful if you would give me a recommendation/referral letter. You can find my resume on my profile, along with my skillsets. I hope you consider me. Thank you.	No Resume Provided	Accepted	No action needed

10. FUTURE ENHANCEMENTS

- **OTP-based Email Verification:**
Implement an OTP system during registration to ensure only genuine users are accessing the platform.
- **In-app Messaging System:**
Allow direct but secure messaging between students and professionals within the platform without exposing personal emails.
- **Professional Rating and Feedback System:**
After a reference is accepted or rejected, users can leave feedback to maintain platform quality.
- **AI-based Referrer Recommendation:**
Integrate machine learning algorithms to automatically suggest the best matching professionals based on the student's profile and goals.
- **Mobile Application:**
Develop Android and iOS apps to make ReferralConnect easily accessible from anywhere.
- **Document Uploads for Verification:**
Allow users to upload academic documents or offer letters securely for more credible referral requests.
- **Admin Dashboard:**
Build a centralized admin dashboard to manage users, referrals, handle disputes, and track platform usage statistics.
- **Premium Membership Features:**
Introduce premium accounts for faster referrals, exclusive access to top-rated professionals, or mentorship sessions.

11.CONCLUSION

ReferralConnect successfully bridges the gap between ambitious candidates and experienced professionals by simplifying the referral process through a user-friendly and secure platform. By offering categorized exploration (Company, University, Scholarship, and Research referrals), the platform ensures that seekers can efficiently find and request appropriate references based on their career goals.

The business logic ensures transparency, secure handling of user data, and streamlined management of referral requests, improving the overall experience for both seekers and referrers. With real-time request tracking, professional discovery, and automated communication workflows, ReferralConnect modernizes and enhances the traditional method of securing valuable recommendations.

Through the integration of modern technologies such as JSP, Servlets, MySQL, and Bootstrap/Tailwind CSS, ReferralConnect demonstrates how web applications can significantly contribute to career development processes while maintaining data privacy, operational efficiency, and scalability for future enhancements.

12. REFERENCES

1. **Korth, H. F., Silberschatz, A., & Sudarshan, S.** (2010). *Database System Concepts* (6th ed.). McGraw-Hill.
2. **GeeksforGeeks.** *Database Normalization in DBMS.*
<https://www.geeksforgeeks.org/normal-forms-in-dbms/>
3. **Javatpoint.** *DBMS Normalization.*
<https://www.javatpoint.com/dbms-normalization>