



**Faculty of Engineering and Applied Science
Final Project Phase #3**

**SOFE 3700U - Data Management Systems
Group #5**

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ABSTRACT

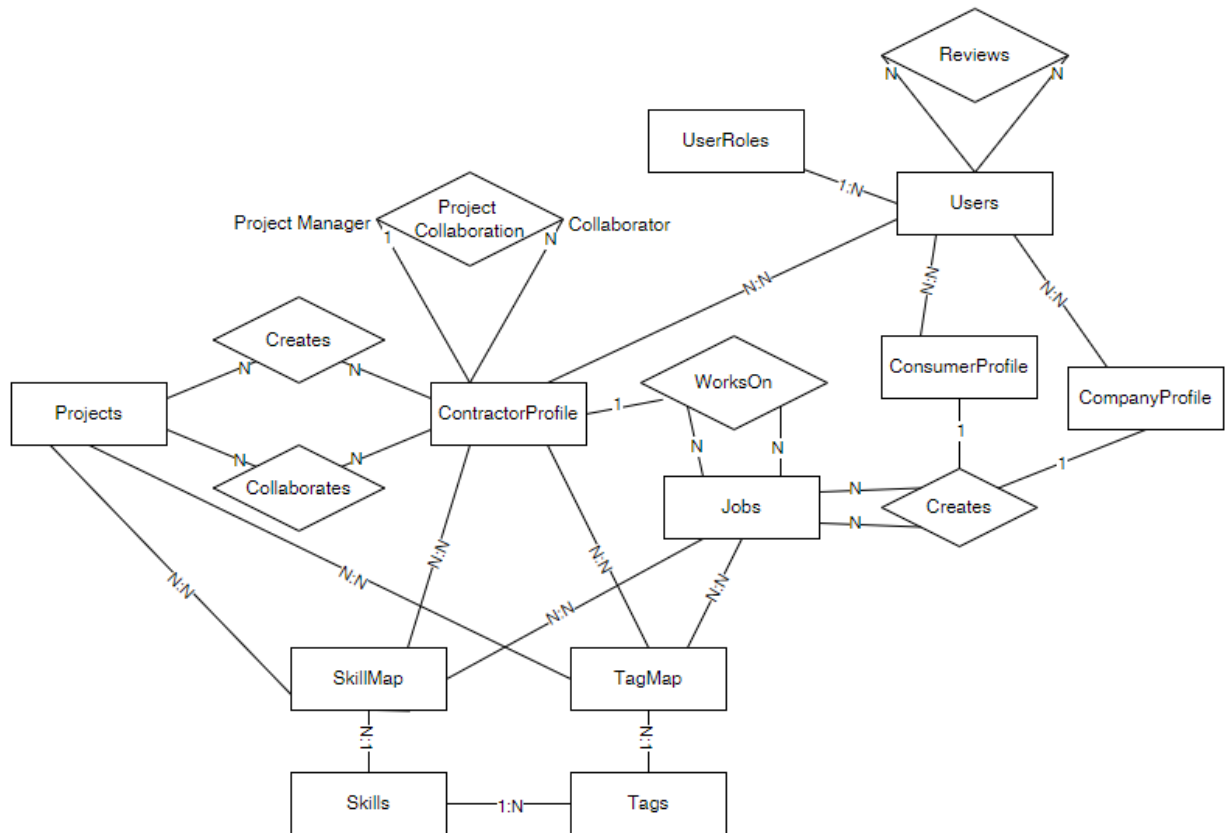
In the contemporary professional landscape, the demand for freelance services has surged, driven by a dynamic economy and evolving work preferences. However, existing platforms such as Freelance.com and Fiverr.com exhibit limitations, such as regional focus and gaps in catering to specific local services. Recognizing these challenges, our team has embarked on a journey to create a comprehensive freelance marketplace that not only transcends geographical boundaries but also fosters a fair and competitive environment for collaboration.

The primary objective is to provide freelancers with a platform to effectively showcase their skills, fostering opportunities for collaboration with businesses of all sizes. Simultaneously, we aim to empower small businesses by offering them access to a pool of skilled freelancers, facilitating cost-effective solutions. Through a meticulous design and implementation strategy, our goal is to create a transformative platform that bridges the gap between freelancers and consumers.

This report provides an in-depth exploration of the development process behind our innovative Freelance Marketplace, aimed at transforming the way freelancers and clients engage in collaborative ventures.

PROJECT DESIGN:

E-R Diagram



Projects Entity:

- **Project Manager (1:N Relationship):** Each project is created by a Project Manager, and the relationship indicates that a single Project Manager can be associated with many projects.
- **Collaboration (N:N Relationship):** Projects involve collaboration between Project Managers and Collaborators. This many-to-many relationship signifies that multiple Project Managers can collaborate with multiple Collaborators on various projects.
- **Contractor Profiles (N:N Relationship):** Projects also have a collaborative relationship with Contractor Profiles, indicating that multiple Contractor Profiles can be associated with multiple projects.
- **Skill Mapping (N:N Relationship):** Projects are linked to skills through the SkillMap entity. This implies that many skills can be associated with multiple projects, and vice versa.

UserRoles Entity:

- Users Relationship (1:N): UserRoles have a one-to-many relationship with Users, indicating that a single role can be assigned to multiple users.

Users Entity:

- Reviews (1:N Relationship): Users can write multiple reviews, creating a one-to-many relationship between Users and Reviews.
- Jobs (N:N Relationship): Users work on many jobs, and jobs involve multiple users. This many-to-many relationship signifies that many users can work on many jobs.
- ConsumerProfile (1:1 Relationship): Each user has one Consumer Profile, representing a one-to-one relationship.
- CompanyProfiles (1:N Relationship): Users can create multiple Company Profiles, establishing a one-to-many relationship.

ContractorProfile Entity:

- Collaboration with Projects (N:N Relationship): ContractorProfiles collaborate with multiple projects, and projects involve collaboration with multiple Contractor Profiles, indicating a many-to-many relationship.
- Works on Jobs (1:N Relationship): Each Contractor Profile can work on many jobs, creating a one-to-many relationship.

Jobs Entity:

- Skill Mapping (N:N Relationship): Jobs are associated with skills through the SkillMap entity, representing a many-to-many relationship.

SkillMap Entity:

- Maps Skills to Jobs and Projects (N:1 Relationship): SkillMap maps many skills to one job or project, indicating a many-to-one relationship.

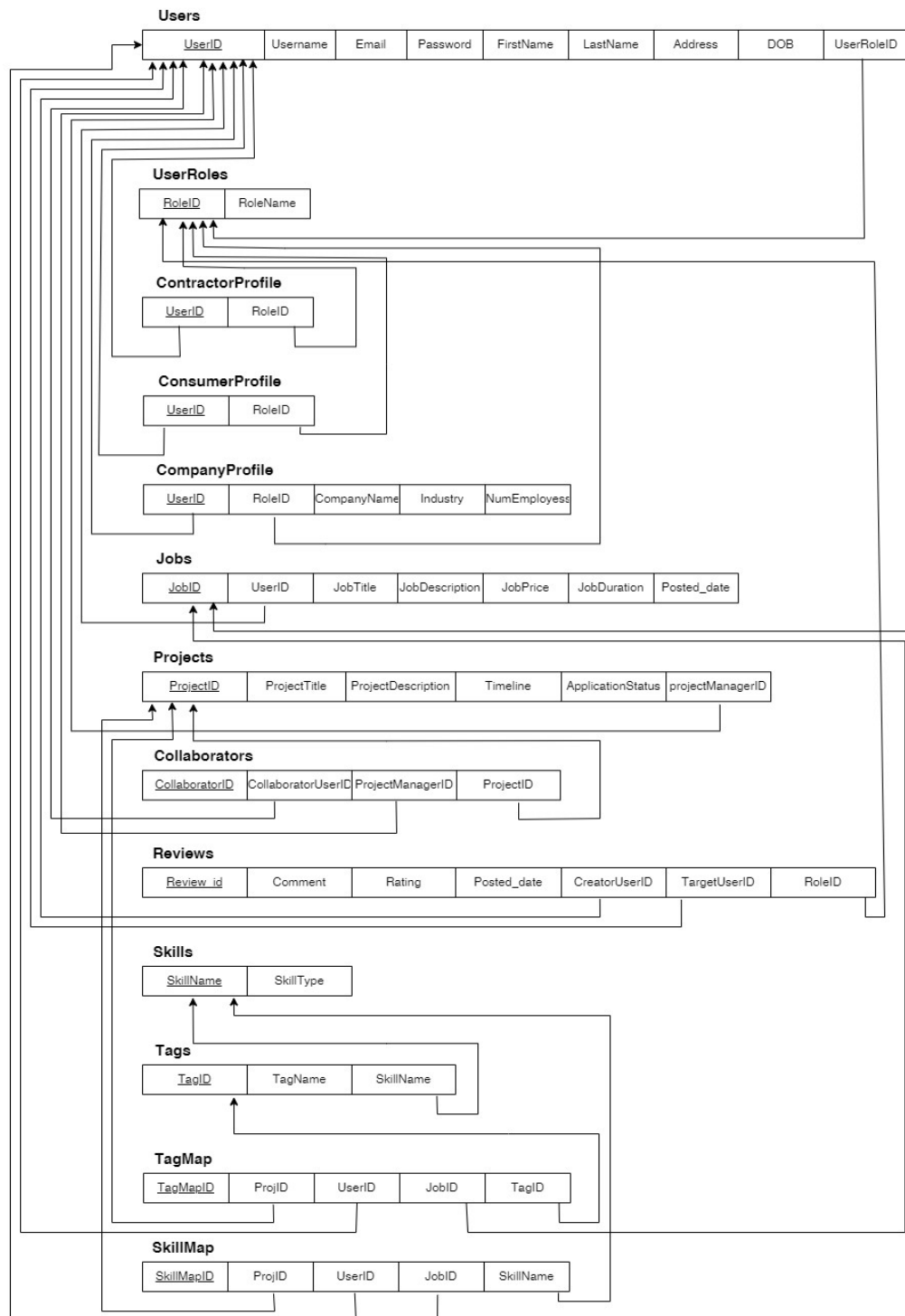
Tags Entity:

- Mapped to Jobs (N:1 Relationship): Tags are mapped to jobs through the TagMap entity, signifying that many tags can be associated with one job.

ConsumerProfile and CompanyProfile Entities:

- Creates Jobs (1:N Relationship): Both ConsumerProfile and CompanyProfile entities can create multiple jobs, establishing a one-to-many relationship.

SCHEMA RELATION DIAGRAM



IMPLEMENTATION TIMELINE

Week 1 (November 6-12): Develop the Platform's Backend

- **Objective:** Lay the Foundation for Robust Functionality
- **Activities:**
 - Prioritize user registration, login, and profile creation functionalities.
 - Establish a secure and scalable backend infrastructure.
 - Integrate necessary security measures to protect user data.
- **Key Milestones:**
 - Backend architecture finalized.
 - User registration and login functionalities implemented.
 - Security protocols integrated.

Week 2 (November 13-19): Build the Front End and Features

- **Objective:** Transform Design into User-Friendly Interface
- **Activities:**
 - Translate wireframes into responsive and user-friendly front-end development.
 - Implement core features, such as job posting, search, and communication tools.
 - Conduct continuous testing to identify and resolve frontend issues.
- **Key Milestones:**
 - User interface development completed.
 - Core features implemented.
 - Initial round of frontend testing concluded.

Week 3 (November 20-22): Test and Debug for Seamless User Experience

- **Objective:** Ensure a Flawless and Intuitive User Experience
- **Activities:**
 - Conduct extensive testing of the entire platform, focusing on usability, performance, and security.
 - Address any bugs, glitches, or user experience issues promptly.
 - Prepare for a soft launch or beta testing phase to gather user feedback for further improvements.
- **Key Milestones:**
 - Comprehensive platform testing completed.
 - Identified issues addressed.
 - Beta testing phase initiated.

Progress Check:

- Regular team meetings to assess progress and address any roadblocks.
- Continuous collaboration between backend and frontend development teams.

Quality Assurance:

- Implementation of quality control measures to ensure adherence to design and functionality standards.
- User acceptance testing to verify alignment with user expectations.

Related Work

Freelance.com: Acknowledged as a significant player, Freelance.com has made strides in connecting freelancers with clients. However, its primary focus on the French market creates limitations for international users. Our platform seeks to bridge this gap by providing currency flexibility and catering to a broader international audience.

Fiverr.com: Recognized for its vast user base and diverse services, Fiverr dominates the freelance marketplace. However, it falls short in effectively catering to local skilled trades services, such as plumbing or electrician work. Our platform aims to differentiate itself by addressing this gap, ensuring that users can find and offer a wide range of services, from digital tasks to local skilled trades.

Unique Selling Proposition (USP):






Our platform not only provides a global reach and currency flexibility but also ensures that it caters to the diverse needs of users, including those seeking and offering specialized local services. The chosen technology stack, including PHP, JSON, HTML, CSS, XAMPP-MySQL Database, and REST API, is a strategic foundation for robust functionality.

Entity Diagram & Views

The collaborative nature of the platform is depicted in the Collaborators, CompanyProfile, ConsumerProfile, Jobs, Projects, Reviews, SkillMap, Skills, TagMap, Tags, UserRoles, and Users entities. The ten different views offer diverse perspectives for enhanced usability, catering to the needs of both freelancers and consumers.

Collaborators

```
1 • SELECT * FROM final.collaborators;
```

Result Grid |   Filter Rows: | Edit:   

	CollaboratorsID	CollaboratorsUserID	ProjectManagerID	ProjectID
1	1	3	11	1
2	2	11	3	5
3	3	12	11	6
4	4	19	11	1
5	5	20	4	2
6	6	20	13	3
	NULL	NULL	NULL	NULL

CompanyProfile

The screenshot shows a database query tool interface. At the top, there is a toolbar with icons for file operations, execution, and navigation. Below the toolbar, a SQL query is entered: `SELECT * FROM final.companyprofile;`. The query is numbered '1'. Below the query editor, there is a 'Result Grid' section. It includes a 'Filter Rows' input field and an 'Edit' button. The result grid displays a table with the following data:

	UserID	RoleID	CompanyName	Industry	NumEmployees
▶	5	3	Intel	Technology	100000
	6	3	Microsoft	Technology	100000
	15	3	Electronic Arts	Gaming	100000
	16	3	Rockstar Games	Gaming	100000
	17	3	Roaring Kitty	Finance	10
	18	3	Print Fast	Printing	1000
*	NULL	NULL	NULL	NULL	NULL

ConsumerProfile

The screenshot shows a database query tool interface. At the top, there is a toolbar with icons for file operations, execution, and navigation. Below the toolbar, a SQL query is entered: `SELECT * FROM final.consumerprofile;`. The query is numbered '1'. Below the query editor, there is a 'Result Grid' section. It includes a 'Filter Rows' input field and an 'Edit' button. The result grid displays a table with the following data:

	UserID	RoleID
▶	1	2
	2	2
	7	2
	8	2
	9	2
	10	2
*	NULL	NULL

Jobs

Limit to 1000 rows

```
1 • SELECT * FROM final.jobs;
```

Result Grid

JobID	UserID	JobTitle	JobDescription	JobPrice	JobDuration	DatePosted
1	1	UI Desinger for personal project	Email me for more information	500	1 Week	2023-11-04
2	1	Front-end Web Developer for personal project	Need front end for portfolio website	1000	2 weeks	2023-11-01
3	8	Cyber Security Specialist needed	Contact for more information	30000	1 year	2023-10-05
4	7	Red-Hat hacker needed	Contact for more details	30000	1 year	2023-10-05
5	9	Plumber to fix toilet	Roomate jammed the flush pipe for my toilet	100	2-3 hours	2023-10-30
6	10	Plumber to fix toilet	Roomate broke the flush and is now trying to blame me	110	2-3 hours	2023-10-31
7	16	App Developer	Contact for more information (super cool, top secret project ;))	100000	1 year	2023-08-22
8	15	Digital Artist	Need to make revamped models for Need For Speed Most Wanted 2024	80000	1 year	2023-09-05
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Projects

Limit to 1000 rows

```
1 • SELECT * FROM final.projects;
```

Result Grid

ProjectID	ProjectTitle	ProjectDescription	ProjectManagerID	Timeline	ApplicationStatus
1	Building house from scratch	I have a plot of land upon which I need to build a house, need someone who can do wiring and plumbing	11	6 Months	1
2	Design Character for a graphic novel	I need a digital artist to design characters for my play as I am publishing it in the form of a graphic novel	4	15 Days	1
3	Publishing music	I have some fire beats ready for a rapper who is willing to take on the project and a digital artist to make the cover art	14	1 Week	1
4	Full Stack Web App development	I need a front end react developer to develop	13	1 Month	1
5	Making a bathroom in my basement	I need a wood worker to make the frame for a bathroom in my basement	3	1 Week	0
6	Making stairs for a customer	I need a welder to make a metal frame for some interior stairs	11	1 Week	0
NULL	NULL	NULL	NULL	NULL	NULL

Reviews



[illegible]

SkillMap

Limit to 1000 rows					
1 • SELECT * FROM final.skillmap;					
Result Grid Filter Rows: Edit:					
	SkillMapID	ProjID	JobID	UserID	SkillName
1	1	NULL	NULL	3	Plumbing
2	2	NULL	NULL	4	Writer
3	3	NULL	NULL	11	Wood Work
4	4	NULL	NULL	12	Welding
5	5	NULL	NULL	12	Plumbing
6	6	NULL	NULL	13	Application Developer
7	7	NULL	NULL	14	Sound Engineer
8	8	NULL	NULL	13	Web Developer
9	9	NULL	1	NULL	UI/UX Designer
10	10	NULL	2	NULL	Web Developer
11	11	NULL	3	NULL	Cyber Security
12	12	NULL	4	NULL	Hacker
13	13	NULL	5	NULL	Plumber
14	14	NULL	6	NULL	Plumber
15	15	NULL	7	NULL	App Developer
16	16	NULL	8	NULL	Digital Artist
17	17	1	NULL	NULL	Plumber
18	18	1	NULL	NULL	Electrician
19	19	2	NULL	NULL	Digital Artist
20	20	3	NULL	NULL	Rapper
21	21	4	NULL	NULL	Web Developer
22	22	5	NULL	NULL	Wood Work
23	23	6	NULL	NULL	Welding
24	24	NULL	NULL	19	Electrician
25	25	3	NULL	NULL	Digital Artist
26	26	NULL	NULL	20	Digital Artist
*	NULL	NULL	NULL	NULL	NULL

Skills

```
1 • SELECT * FROM final.skills;
```

Result Grid   Filter Rows:

	SkillName	SkillType
▶	Application Developer	global
	Background Dancer	local
	Control System Designer	global
	Cyber Security	global
	Digital Artist	global
	Electrician	local
	Hacker	global
	Plumbing	local
	Rapper	global
	Sound Engineer	global
	UI/UX Designer	global
	Web Developer	global
	Welding	local
	Wood Work	local
	Writer	local
•	NULL	NULL

TagMap

1 • `SELECT * FROM final.tagmap;`

Result Grid



Filter Rows:



Edit:



	TagMapID	ProjID	JobID	UserID	TagID
▶	1	2	NULL	NULL	6
	2	3	NULL	NULL	6
	3	4	NULL	NULL	1
	4	5	NULL	NULL	18
	5	6	NULL	NULL	22
	6	NULL	1	NULL	12
	7	NULL	2	NULL	1
	8	NULL	4	NULL	8
	9	NULL	8	NULL	6
	10	NULL	NULL	3	16
	11	NULL	NULL	11	18
	12	NULL	NULL	11	20
	13	NULL	NULL	12	21
	14	NULL	NULL	12	22
	15	NULL	NULL	13	1
	16	NULL	NULL	13	2
	17	NULL	NULL	14	10
	18	NULL	NULL	20	5
	19	NULL	NULL	20	6
•	NULL	NULL	NULL	NULL	NULL

Tags

1 • `SELECT * FROM final.tags;`

Result Grid   Filter Rows:

	TagID	TagName	SkillName
•	1	Front-End	Web Developer
	2	Back-End	Web Developer
	3	Classical	Background Dancer
	4	Hip Hop	Background Dancer
	5	Abstract	Digital Artist
	6	Modern	Digital Artist
	7	White-Hat	Hacker
	8	Red-Hat	Hacker
	9	Blue-Hat	Hacker
	10	Rap	Sound Engineer
	11	Hip Hop	Sound Engineer
	12	Web	UI/UX Designer
	13	Apps	UI/UX Designer
	14	Classical	Writer
	15	Poet	Writer
	16	Novelist	Writer
	17	Play	Writer
	18	Construction	Wood Work
	19	Creative	Wood Work
	20	Furniture	Wood Work
	21	Small-Scale	Welding
	22	Large-Scale	Welding
•	NULL	NULL	NULL

UserRoles

The screenshot shows the SQL query editor with the query `SELECT * FROM final.userroles;` entered. Below the editor, the 'Result Grid' is visible, showing the results of the query. The grid has two columns: 'RoleID' and 'RoleName'. The results are as follows:

RoleID	RoleName
1	Contractor
2	Consumer
3	Company
NULL	NULL

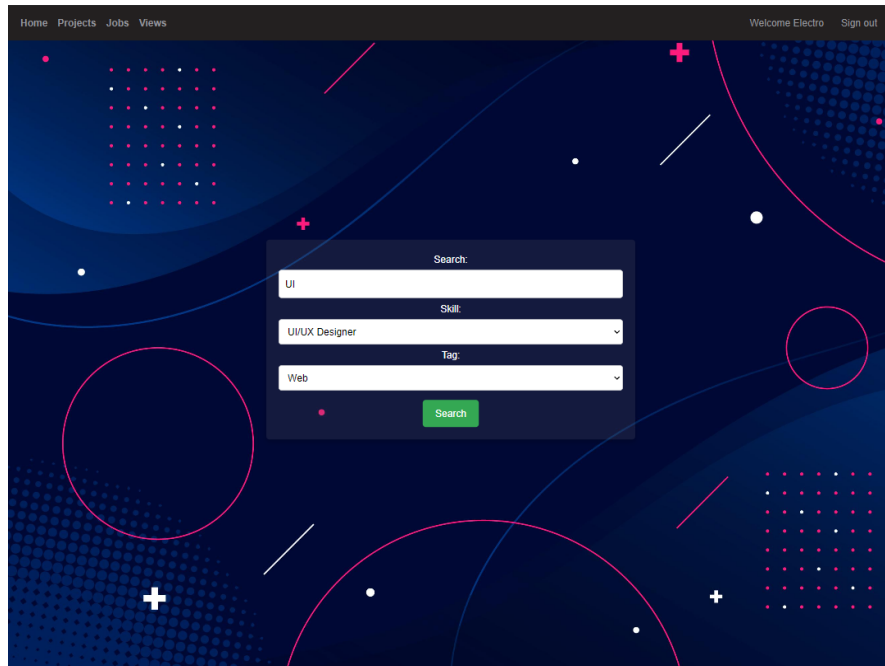
Users

1 • SELECT * FROM final.users;

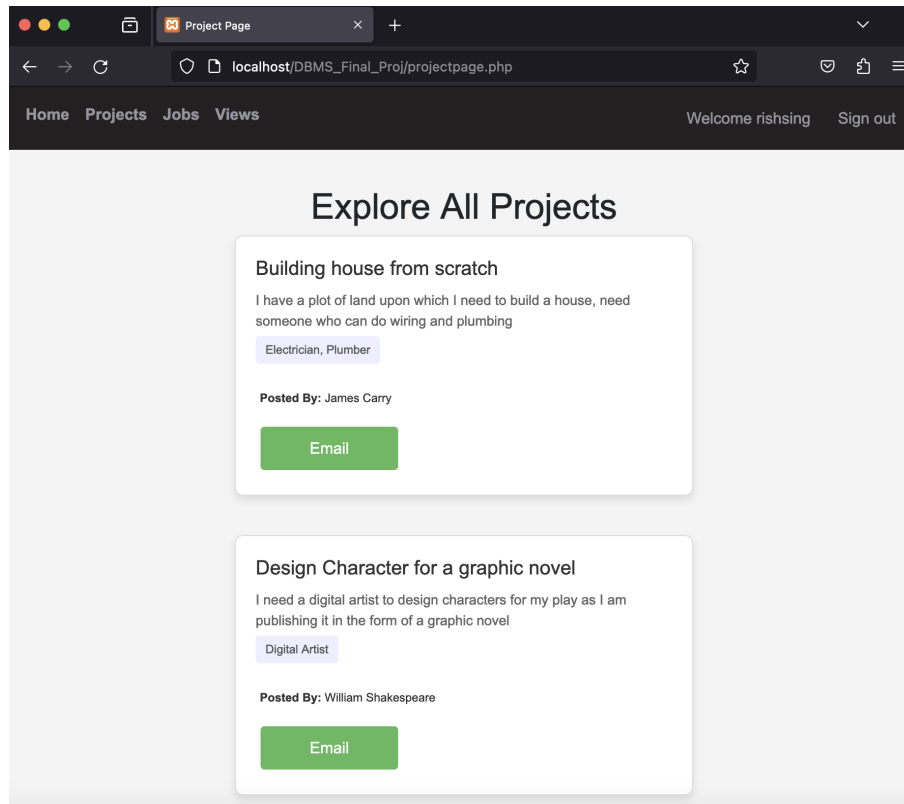
UserID	Username	Email	Password	FirstName	LastName	Address	DOB	UserRoleID
1	Panda02	kunal.pandya2@ontariotechu.net	tempass1	Kunal	Pandya	2000 Simcoe St, Oshawa, Canada	2002-03-22	2
2	Nas04	tempmail@gmail.com	password0220	John	Smith	175 Church St, Toronto, Canada	2000-01-05	2
3	Boi543	mail@hotmail.com	passPhrase	Kyle	Mathews	245 Main St, Quebec City, Can...	1986-05-21	1
4	Hamlet513	shake.shpeare@gmail.com	GHOST!!!	William	Shakespeare	1 Father St, London, UK	2006-01-01	1
5	Intel	marketing@intel.com	coreI9Gen14	Christoph	Schell	2200 Mission College Blvd, Unit...	1973-12-25	3
6	Microsoft	notch.apple@microsoft.com	Minecraft	Markus	Persson	1 Microsoft Way, Redmond, W...	1979-06-01	3
7	RandomMan6	brunermail@thundermail.com	fireBoy	Tester1	Tester2	1 anonymous Rd, N/A	1000-10-10	2
8	RandomWomen6	bruningmail@thundermail.com	waterGirl	Tester3	Tester4	1 anonymous Rd, N/A	1000-10-10	2
9	Tom2332	itstom2000@gmail.com	itsTom	Tom	Stallon	343 Main St, NY, United States	2000-05-30	2
10	Jerry2332	itsJerry2000@gmail.com	itsJerry	Jerry	Riccardo	343 Main St, NY, United States	2000-05-30	2
11	Woody223	WoodyBoy@hotmail.com	IloveWood	James	Carry	12 Queens Way, London, UK	1995-02-21	1
12	MetalcGirl44	MetalcGirl44@gmail.com	WeldingIsLife	Tiny	McCarthy	88 Painted Post Dr, Toronto, C...	1999-07-07	1
13	DevOpsGod	Developer.Operation@gmail.com	BigBrainDev	Marcus	Lit	199 Railway Ave, Manitoba, Ca...	2000-05-30	1
14	LiIRapGod	RapISlife2260@gmail.com	M&MIsAwesome	Terry	James	455 56 Ave, Vancouver, Canada	2001-03-25	1
15	NFSMW2005	NFSMW2005@ea.com	BMWV3GTR	Clarence	Callahan	209 Redwood Shores Parkway, ...	2005-11-11	3
16	GTAIceCity	marketing@rockstart.com	MiamiCity	Tommy	Vercetti	575 Broadway, New York, Unit...	2002-10-29	3
17	RoaringKitty	roaringkitty@gmail.com	PaperHands	Keith	Gill	548 Market St, San Francisco, ...	1986-06-08	3
18	PrintFast	marketing@printfast.ca	timeIsMoney	John	Perry	12 Principal Rd #11, Scarborou...	1995-08-12	3
19	Electro	electro.Maxwell@gmail.com	SpiderMan	Maxwell	Dillon	1 Broadway Cres, Nevada, Unit...	1999-05-02	1
20	VincentVan321	vincent.gogh	NetherlandsIsAwesome	Vincent	Gogh	321 Vincent Rd, Zundert, Neth...	1953-03-30	1

Screenshots with Captions

1. A welcoming entry point to our Freelance Marketplace, designed for an intuitive user experience that immediately engages visitors. Logged in.

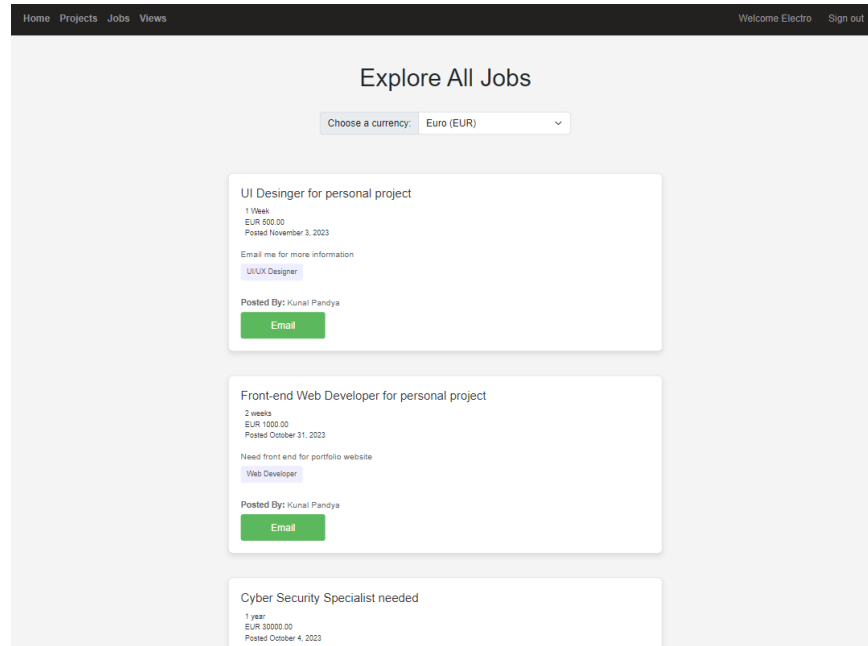


2. Explore and discover active project listings, each providing a detailed overview, connecting freelancers with potential opportunities.

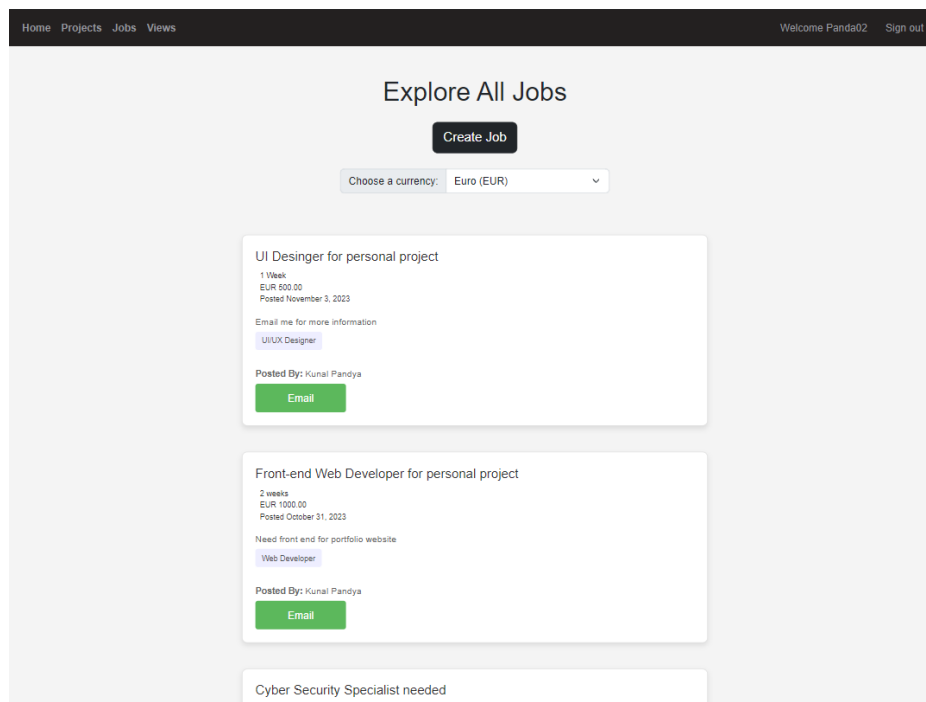


3. Browse through a dynamic array of active job listings, offering a comprehensive view of available freelance opportunities across diverse industries.

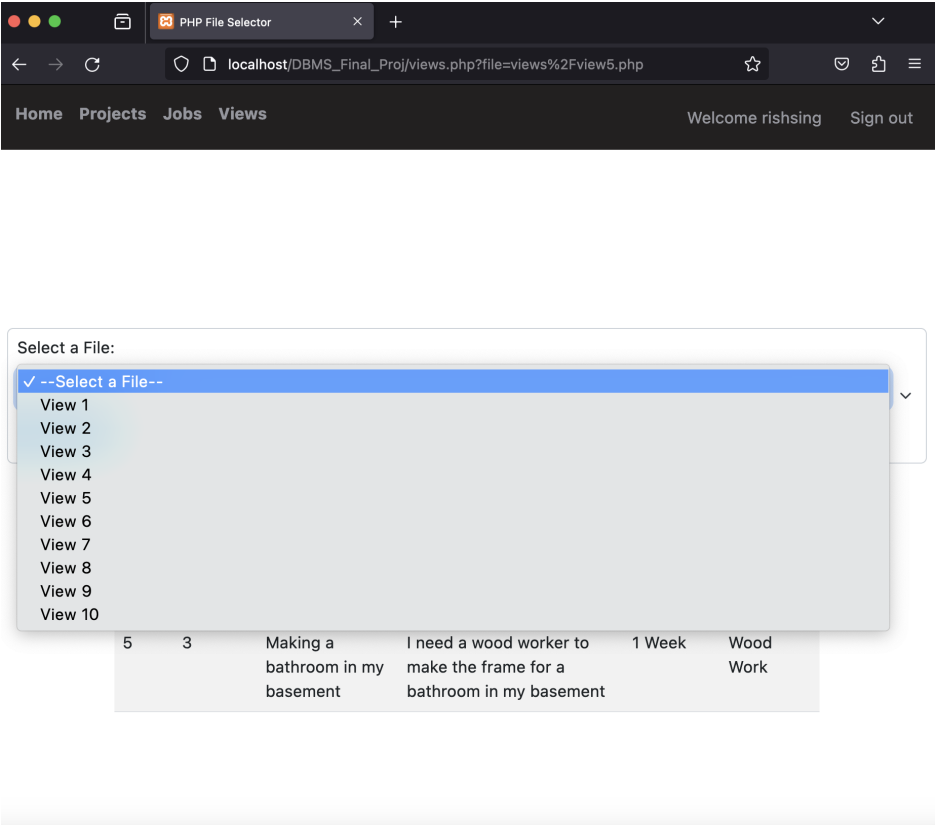
Current User: Electro; User Role: Contractor



3. Browse through a dynamic array of active job listings, offering a comprehensive view of available freelance opportunities across diverse industries.
Current User: Panda02; User Role: Consumer; Session Permission: View & Create



4. Access 10 different views of the database effortlessly with a user-friendly drop-down menu, offering diverse perspectives for enhanced usability



5. Secure access to your personalized account, ensuring a seamless and protected experience for freelancers and businesses alike.

Home Projects Jobs Views Register Login

Register

Username

Password

Email

First Name

Last Name

Address

yyyy-mm-dd

Select Role

Signup

5. Effortlessly join our *Freelance Marketplace* community by creating an account, unlocking a world of collaboration and opportunities.

[Home](#) [Projects](#) [Jobs](#) [Views](#) [Register](#) [Login](#)

Login

Username

Password

Login

Addressing Areas for Growth and Enhancement in the Platform

Feedback Collection	<ul style="list-style-type: none">- Emphasize the importance of continuous feedback collection post-launch.- Implement mechanisms for users to share insights and suggestions effortlessly.
Performance Metrics	<ul style="list-style-type: none">- Monitor platform performance metrics such as loading times and server responsiveness.- Establish a feedback loop for users to report performance-related issues.
Feature Enhancements	<ul style="list-style-type: none">- Acknowledge that features, once live, can be further enhanced based on user interaction.- Plan for post-launch feature updates to keep the platform dynamic and relevant
Scalability Measures	<ul style="list-style-type: none">- Anticipate the growth of users and data; outline plans for scalability.- Ensure the platform architecture is adaptable to handle increased user loads.
Security Measures	<ul style="list-style-type: none">- Address any security concerns that may arise during the beta testing phase.- Communicate proactively about the measures in place to protect user data.

CONCLUSION

In conclusion, the project's unique selling proposition lies in providing a global, flexible, and comprehensive platform that addresses the limitations of existing freelance service providers. The implementation timeline reflects our strategic approach, focusing on a robust backend, user-friendly frontend, and seamless testing for a flawless user experience. The chosen technology stack ensures a strong foundation for functionality and scalability. Acknowledging industry giants, Freelance.com and Fiverr.com, we have identified and addressed their limitations, creating a platform that combines global reach with the flexibility to meet diverse user needs. In essence, the Freelance Marketplace is not just a project; it's an evolving ecosystem that adapts to user needs. We invite freelancers, businesses, and collaborators to join us on this transformative journey, where opportunities for fair and competitive collaboration abound.

Git-Hub Link

https://github.com/kunalpanda/DBMS_Final_Proj