VISHNU INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

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Job placement and skill development system

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

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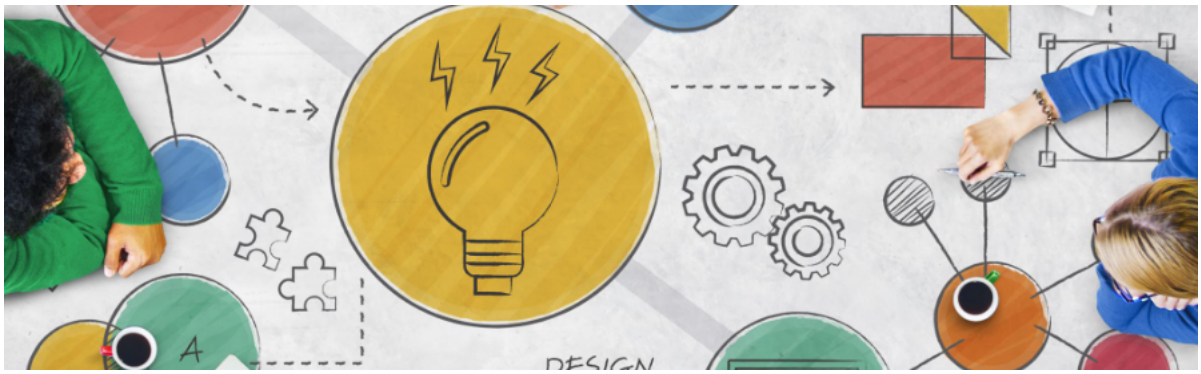

Job placement and skill development system

Project Description:

This project is an advanced web-based platform designed to connect job seekers with potential employers, providing a comprehensive ecosystem for skill development, resume building and efficient job matching.

This project aims to streamline the job search and recruitment process by using a DataBase Management System to organize and manage user data effectively.

Key Features:

1. User Profiles:

- Job seekers and employers can create detailed profiles, showcasing skills, qualifications, and experiences.
- Secure registration and authentication process ensure data integrity.

2. Skill Development Resources:

- A curated collection of skill development resources, including courses, tutorials, and webinars, personalized for individual users.
- Users can track their progress and update their profiles with newly acquired skills.

3. Resume Builder:

- An intuitive tool for creating and updating professional resumes. Pre-built templates and guidelines assist users in highlighting their strengths.

4. Job Matching Algorithms:

- Smart algorithms match job seekers with relevant job listings based on skills and qualifications.
- Customizable filters enhance the precision of job recommendations.

5. Real-time Job Alerts:

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- Instant notifications keep users informed about new job opportunities.
- Email and app notifications ensure timely updates.

6. Interview Preparation:

- Resources and guides help users prepare for interviews.
- Mock interview features provide valuable feedback.

7. Networking Hub:

- Virtual networking events and forums facilitate connections between job seekers and employers.
- Employer spotlights and Q&A sessions offer insights into company culture.

8. Feedback and Ratings:

- Both employers and job seekers can provide feedback and ratings, fostering a transparent and trustworthy community.

9. Analytics Dashboard:

- An intuitive dashboard provides users with insights into their application progress, job search effectiveness, and skill improvement.

10. Security Measures:

- Robust data encryption ensures the privacy and security of user information.
- Verified profiles enhance the credibility of the platform.

Entities:

- **Profile** : Allows user to insert all the details of the user.
- **Attributes**:User_ID (Primary Key), Username, Password, Email, UserType (Job Seeker or Employer), Profile_Picture, Resume_Link, Skills, Experience, Qualifications.
- **Skill Development Resources:** Insert new skill development resources into the Skill Development Resources .
- **Attributes:**Resource_ID (Primary Key), Title, Description, Link, Category, User_ID (Foreign Key referencing User Profiles Table)
- **Job Posting:** Allows the recuiters to post the particular job requirements in the company.
- **Attributes:** Job_ID (Primary Key), Title, Description, Requirements, Location, Salary, Company_Name, Industry, Posted_Date, User_ID (Foreign Key referencing User Profiles Table).
- **Interview**: Allows recruiters to be aware of all details before going for

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interview.

- **Attributes:**Application_ID (Primary Key), Job_ID (Foreign Key referencing Job Listings Table), User_ID (Foreign Key referencing User Profiles Table), Application_Date, Status.
- **Notification:** Allows users and recruiters to get updates of each job all time.
- **Attributes:**Application_ID (Primary Key), Job_ID (Foreign Key referencing Job Listings Table), User_ID (Foreign Key referencing User Profiles Table), Application_Date, Status.
- **Application:**Job seekers apply to jobs, creating entries in the Job Applications Table.
- **Attributes:** Event_ID (Primary Key), Title, Description, Date, Time, Location, User_ID (Foreign Key referencing User Profiles Table).
- **Feedback and Rating:** Allow users to rate and provide feedback on each other, updating the Feedback and Ratings Table.
- **Attributes:** Feedback_ID (Primary Key), Rated_User_ID (Foreign Key referencing User Profiles Table), Rater_User_ID (Foreign Key referencing User Profiles Table), Rating, Comments, Date.

Relationships:

1) **User Profiles Table:**
   - One-to-Many with Skill Development Resources Table: A user can add multiple skill development resources.
   - One-to-Many with Job Postings Table: A user (employer) can post multiple job listings.
   - One-to-Many with Notifications Table: A user can organize multiple networking events.
   - One-to-Many with Feedback and Ratings Table (twice): A user can receive and provide multiple feedback and ratings.
2) **Skill Development Resources Table:**
   - Many-to-One with User Profiles Table: Each resource is added by one user.
3) **Job Postings Table:**
   - Many-to-One with User Profiles Table: Each job listing is posted by one user (employer).
   - One-to-Many with Job Applications Table: One job listing can receive multiple applications.
4) **Job Applications Table:**

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- Many-to-One with User Profiles Table: Each application is submitted by one user (job seeker).
- Many-to-One with Job Listings Table: Each application is for a specific job listing.
- One-to-Many with Interviews Table: One job application can have multiple interviews.

5) **Interviews Table:**

- Many-to-One with Job Applications Table: Each interview is associated with one job application.

6) **Notifications Table:**

- Many-to-One with User Profiles Table: Each networking event is organized by one user.

7) **Feedback and Ratings Table:**

- Many-to-One with User Profiles Table for Rated_User_ID and Rater_User_ID: Each feedback and rating involve one user being rated and one user providing the rating.

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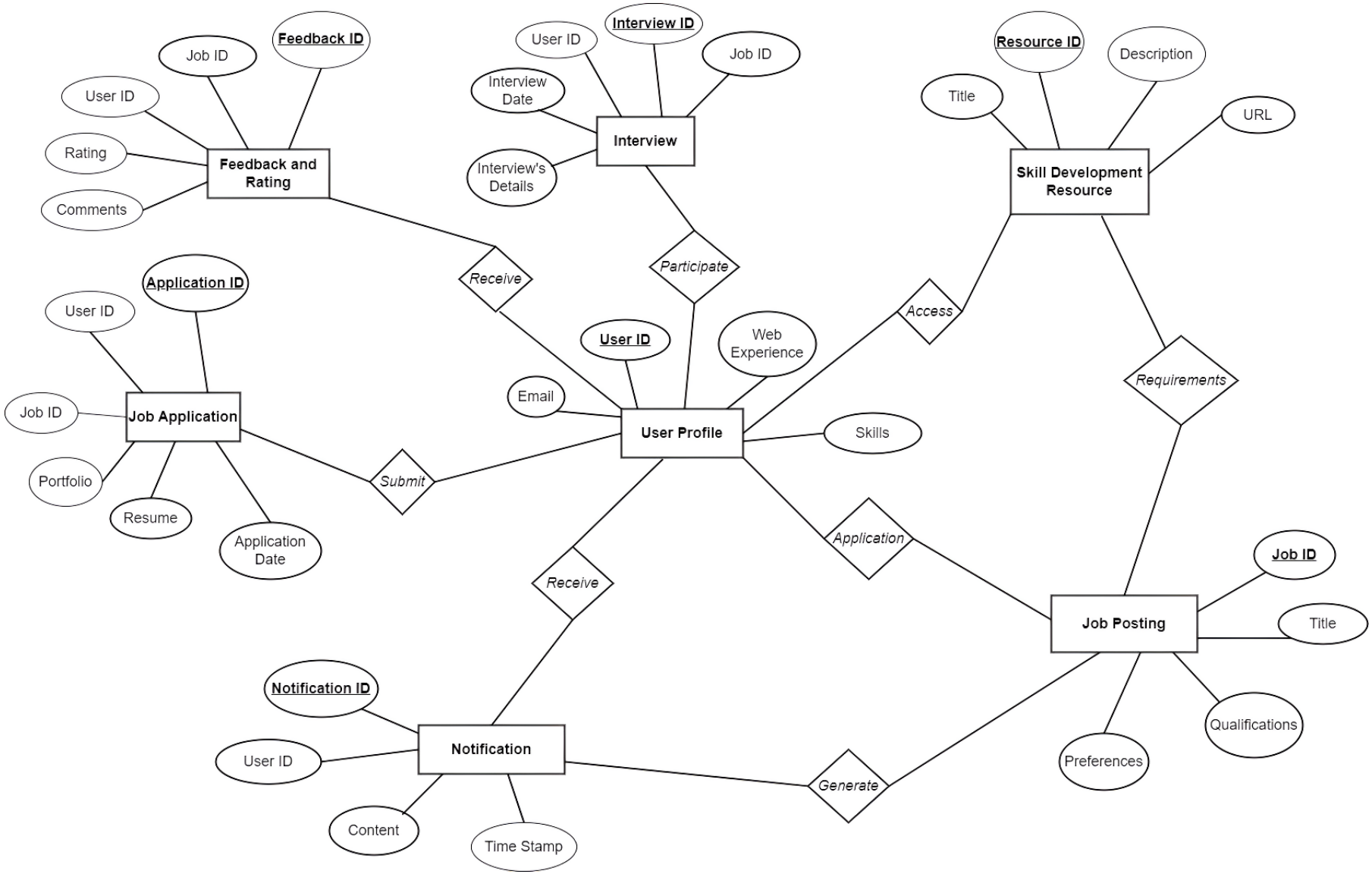

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DataBase Design:

SQL Code for UserProfile Table:

```
create table UserProfiles(
 UserID int primary key,
 Username varchar(255),
 Email varchar(255),
 UserType varchar(255),
 ResumeLink varchar(255),
 Skills varchar(255),
 Experience varchar(255),
 Qualifications varchar(255)
)
```

O/P: Table Created

```
insert all
into UserProfiles
values(1,'JohnDoe','john.doe@gmail.com','JobSeeker','resume1.pdf','Java','3
years','Bachelor in Computer Science')
intoUserProfiles
values(2,'CompanyABC','info@companyco.in','Employer',null,null,null,null)
intoUserProfilesvalues(3,'Jane','jane.smith@gmail.com','JobSeeker','resume2.pdf','JS',
'2 years','Master in Web Development')
into UserProfiles values(4,'TechCo','info@techco.in','Employer',null,null,null,null)
intoUserProfilesvalues(5,'Robert','robert.queen@gmail.com','JobSeeker','resume3.pdf
','C++','5 years','Ph.D. in Computer Science')
intoUserProfilesvalues(6,'MarketingHub','market.hub@yahoo.in','Employer',null,null,nu
ll,null)
select * from dual
```

O/P: 6 row(s) inserted

```
SELECT * from UserProfiles
```

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USERID	USERNAME	EMAIL	USERTYPE	RESUMELINK	SKILLS	EXPERIENCE	QUALIFICATIONS
1	JohnDoe	john.doe@gmail.com	JobSeeker	resume1.pdf	Java	3 years	Bachelor in Computer Science
2	CompanyABC	info@companyco.in	Employer	-	-	-	-
3	Jane	jane.smith@gmail.com	JobSeeker	resume2.pdf	JS	2 years	Master in Web Development
4	TechCo	info@techco.in	Employer	-	-	-	-
5	Robert	robert.queen@gmail.com	JobSeeker	resume3.pdf	C++	5 years	Ph.D. in Computer Science
6	MarketingHub	market.hub@yahoo.in	Employer	-	-	-	-

SQL Code for Skill Development Table:

```
create table SkillDevelopmentResources(
  ResourceID int primary key,
  Title varchar(255),
  Description varchar(255),
  Category varchar(255),
  UserId int,
  foreign key (UserID) references UserProfiles(UserId)
)
```

O/P: Table Created

```
insert all
into SkillDevelopmentResources values(1,'Advanced Python','Python Libraries', 'Programming',1)
into SkillDevelopmentResources values(2,'Web Development','Advanced Web Development','Web Development',3)
into SkillDevelopmentResources values(3,'JS Masterclass','Advanced JS concepts','Web Development',3)
into SkillDevelopmentResources values(4,'DS in Python','Exploring DS techniques','Data Science',1)
into SkillDevelopmentResources values(5,'C++ Fundamentals','Basic concepts of C++ programming','Programming',5)
into SkillDevelopmentResources values(6,'Digital Marketing Strategies','Effective Digital Marketing Approaches','Marketing',6)
select * from dual
```

O/P: 6 row(s) inserted

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select * from SkillDevelopmentResources

RESOURCEID	TITLE	DESCRIPTION	CATEGORY	USERID
1	Advanced Python	Python Libraries	Programming	1
2	Web Development	Advanced Web Development	Web Development	3
3	JS Masterclass	Advanced JS concepts	Web Development	3
4	DS in Python	Exploring DS techniques	Data Science	1
5	C++ Fundamentals	Basic concepts of C++ programming	Programming	5
6	Digital Marketing Strategies	Effective Digital Marketing Approaches	Marketing	6

SQL Code for Job Postings Table:

```
create table JobPostings(
    JobID int primary key,
    Title varchar(255),
    Description varchar(255),
    Requirements varchar(255),
    Salary decimal(10,2),
    UserID int,
    foreign key (UserID) references UserProfiles(UserID)
)
```

O/P: Table Created

```
insert all
into JobPostings values(1, 'Software Engineer', 'Developing software applications', '5 years of experience, proficiency in Java', 80000.00,2)
into JobPostings values(2, 'Marketing Specialist', 'Creating marketing campaigns', '3 years of marketing experience', 60000.00,2)
into JobPostings values(3, 'Frontend Developer', 'Building user interfaces', 'Experience with React.js and CSS', 75000.00,4)
into JobPostings values(4, 'Data Analyst', 'Analyzing and interpreting data', 'Proficiency in SQL and Python', 70000.00,4)
```

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into JobPostings values(5, 'Senior Software Engineer', 'Leading software development projects', '7 years of experience, expertise in Java', 100000.00,2)

into JobPostings values(6, 'Marketing Coordinator', 'Assisting in marketing campaigns', '1-2 years of marketing experience', 50000.00,6)

select * from dual

O/P: 6 row(s) inserted

select * from JobListings

JOBID	TITLE	DESCRIPTION	REQUIREMENTS	SALARY	USERID
1	Software Engineer	Developing software applications	5 years of experience, proficiency in Java	80000	2
2	Marketing Specialist	Creating marketing campaigns	3 years of marketing experience	60000	2
3	Frontend Developer	Building user interfaces	Experience with React.js and CSS	75000	4
4	Data Analyst	Analyzing and interpreting data	Proficiency in SQL and Python	70000	4
5	Senior Software Engineer	Leading software development projects	7 years of experience, expertise in Java	100000	2
6	Marketing Coordinator	Assisting in marketing campaigns	1-2 years of marketing experience	50000	6

SQL Code for Applications Table:

```
create table JobApplication(
    ApplicationID int primary key,
    JobID int,
    UserID int,
    Status varchar(50),
    foreign key (JobID) references JobPostings(JobID),
    foreign key (UserID) references UserProfiles(UserID)
)
```

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```
insert all
into JobApplication values(1,1,1,'Pending')
into JobApplication values(2,2,1,'Approved')
into JobApplication values(3,3,3,'Pending')
into JobApplication values(4,4,5,'Rejected')
```

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into JobApplication values(5,5,1,'Pending')

into JobApplication values(6,6,3,'Approved')

select * from dual

O/P: 6 row(s) inserted

Select * from JOBApplications

APPLICATIONID	JOBID	USERID	STATUS
1	1	1	Pending
2	2	1	Approved
3	3	3	Pending
4	4	5	Rejected
5	5	1	Pending
6	6	3	Approved

SQL Code for Interview Table:

```
create table Interviews (
    InterviewID int primary key,
    ApplicationID int,
    Interviewer varchar(255),
    Feedback varchar(255),
    foreign key (ApplicationID) references JobApplication(ApplicationID)
)
```

O/P: Table Created

insert all

into Interviews values(1,1,'Hiring Manager 1','Good technical skills, communication could improve')

into Interviews values(2, 2,'HR Specialist 1', 'Impressive experience and skills')

into Interviews values(3, 3,'Tech Lead', 'Positive attitude, needs more experience')

into Interviews values(4, 4,'Data Scientist Lead', 'Excellent analytical skills')

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into Interviews values(5, 5,'Hiring Manager 2', 'Strong technical interview, good fit for the team')

into Interviews values(6, 6,'HR Specialist 2', 'Excellent communication skills, positive impression')

select * from dual

O/P: 6 row(s) inserted

Select * from Interviews

INTERVIEWID	APPLICATIONID	INTERVIEWER	FEEDBACK
1	1	Hiring Manager 1	Good technical skills, communication could improve
2	2	HR Specialist 1	Impressive experience and skills
3	3	Tech Lead	Positive attitude, needs more experience
4	4	Data Scientist Lead	Excellent analytical skills
5	5	Hiring Manager 2	Strong technical interview, good fit for the team
6	6	HR Specialist 2	Excellent communication skills, positive impression

SQL Code for Feedback and Ratings Table:

```
create table FeedbackAndRatings (
    FeedbackID int primary key,
    RatedUserID int,
    Rating int,
    Comments varchar(255),
    foreign key (RatedUserID) references UserProfiles(UserID)
)
```

O/P: Table Created

insert all

into FeedbackandRatings values(1, 1,4, 'Great collaboration during the project')

into FeedbackandRatings values(2, 2,5, 'Highly professional and skilled individual')

into FeedbackandRatings values(3, 3,3, 'Average performance in the team')

into FeedbackandRatings values(4, 4,4, 'Excellent problem-solving skills')

into FeedbackandRatings values(5, 5,5, 'Consistently delivers high-quality work')

into FeedbackandRatings values(6, 6,4, 'Good communication and teamwork')

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select * from dual

O/P: 6 row(s) inserted

Select * from FeedbackandRatings

FEEDBACKID	RATEDUSERID	RATING	COMMENTS
1	1	4	Great collaboration during the project
2	2	5	Highly professional and skilled individual
3	3	3	Average performance in the team
4	4	4	Excellent problem-solving skills
5	5	5	Consistently delivers high-quality work
6	6	4	Good communication and teamwork

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