SKILL HIVE

PROBLEM STATEMENT

In rural and semi-urban areas, the process of finding skilled workers is often unorganized, relying heavily on personal networks, leading to delays and inefficiencies. Skilled workers face difficulty in reaching potential clients due to the absence of a centralized platform. The proposed Village Skill Directory (Skill Hive) aims to bridge this gap by providing a database-driven system that enables efficient worker registration, service request management, and time-slot based job allocation. This solution ensures improved accessibility, transparency, and streamlined coordination between workers and users.

ENTITIES

1. **User** – Represents individuals who request skilled services.
2. **Skill_Worker** – Represents registered workers who provide skilled services.
3. **Skill_Type** – Represents categories of skills (e.g., plumber, carpenter, electrician).
4. **Work_Request** – Represents service requests made by users.
5. **Worker_Availability** – Represents available time slots and request details of workers.
6. **Feedback** – Represents feedback given by users to workers after service completion.
7. **Notification** – Represents system notifications sent to users and workers about updates.

RELATIONSHIPS

1. **User ↔ Work_Request (Posts):** A user can post one or more work requests.
2. **Skill_Worker ↔ Work_Request (Accepts):** A worker can accept one or more work requests.
3. **Skill_Worker ↔ Worker_Availability (Available):** A worker can have one or more availability records.
4. **Skill_Worker ↔ Skill_Type (Has_Skill):** A worker has exactly one skill type.
5. **User ↔ Feedback ↔ Skill_Worker (Gives_Feedback):** A user can give feedback for a worker after a request is completed.
6. **User ↔ Notification (Receives):** A user can receive one or more notifications.
7. **Skill_Worker ↔ Notification (Receives):** A worker can receive one or more notifications.

ATTRIBUTES

User

- user_id (PK)
- **name**:
    - first_name
    - last_name
- email
- password
- phone_numbers

Skill_Worker

- worker_id (PK)
- **name**:
    - first_name
    - last_name
- **address**:
    - door_no
    - street_name
    - area
    - city
    - pincode
- experience_years
- available_status (boolean – available/unavailable)

- phone_numbers

Skill_Type

- skill_type_id (PK)
- skill_name

Work_Request

- request_id (PK)
- description
- request_date
- status
- **location**:
    - door_no
    - street_name
    - area
    - city
    - pincode

Worker_Availability

- request_details

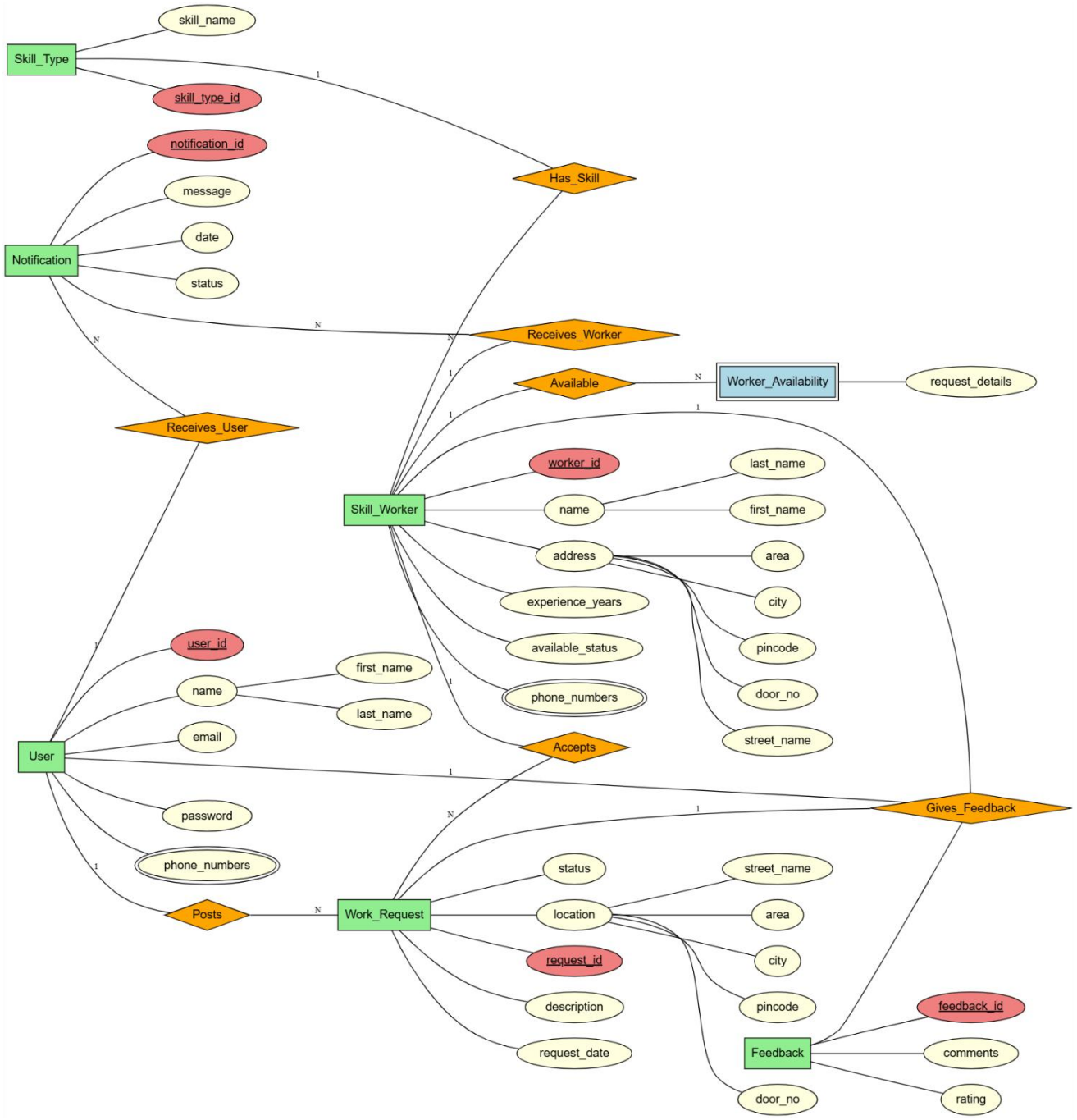
Feedback

- feedback_id (PK)
- comments
- rating

Notification

- notification_id (PK)
- message
- date
- status (read/unread)

ER DIAGRAM


skill_name
Skill_Type
skill_type_id
notification_id
message
date
status
Notification
Has_Skill
Receives_Worker
Receives_User
Available
Worker_Availability
request_details
worker_id
last_name
name
first_name
address
area
city
pincode
door_no
street_name
experience_years
available_status
phone_numbers
Skill_Worker
Accepts
user_id
name
first_name
last_name
email
User
password
phone_numbers
Posts
Work_Request
Gives_Feedback
status
street_name
location
area
city
pincode
request_id
description
request_date
Feedback
feedback_id
comments
rating
door_no
1
N

RELATIONAL TABLE

Entity Tables

User

Schema: user(user_id, first_name, last_name, email, password, phone_no1, phone_no2)

user_id	first_name	last_name	email	password	phone_no1	phone_no2
1	Bob	Smith	bob@example.com	pass123	9876543210	8765432109
2	Larry	Johnson	larry@example.com	pass456	9988776655	NULL

Skill_Worker

Schema: skill_worker(worker_id, first_name, last_name, door_number, street_name, area, city, pincode, experience_years, available_status, phone_number1, phone_number2)

worker_id	first_name	last_name	door_number	street_name	area	city	pincode	experience_years	available_status	phone_number1	phone_number2
1	Bob	Williams	12A	Main Street	Downtown	Chennai	600001	5	Available	9123456780	NULL
2	Larry	Brown	45B	Market Road	Uptown	Coimbatore	641001	3	Unavailable	9876501234	8765098765

Skil_Type

Schema: skill_type(skill_type_id, skill_name)

skill_type_id	skill_name
2	Carpentry
1	Plumbing

Work_Request

Schema: work_request(request_id, description, status, request_date, door_no, street_name, area, city, pincode)

request_id	description	status	request_date	door_no	street_name	area	city	pincode
1	Fix kitchen sink	Pending	2025-09-03 10:00:00	12A	Main Street	Downtown	Chennai	600001
2	Repair wooden door	Accepted	2025-09-03 11:00:00	45B	Market Road	Uptown	Coimbatore	641001

Feedback

Schema: feedback(feedback_id, comments, rating)

feedback_id	comments	rating
1	Great job!	5
2	Needs improvement	3

Notification

Schema: notification(notification_id, message, date, status)

notification_id	message	date	status
1	Your request has been accepted	2025-09-03 09:00:00	Unread
2	Your job is completed	2025-09-03 12:00:00	Read

Worker Availability

Schema: worker_availabilit(request_details)

availability_id	worker_id	request_details
1	1	Available from 9 AM - 1 PM
2	2	Available from 2 PM - 6 PM

Relationship Table

Relation: Accepts (Skill_Worker ↔ Work_Request)

Schema: Accepts(worker_id, request_id)

worker_id	request_id
1	1
2	2