



Faculty of Computers and Artificial Intelligence

Cairo University

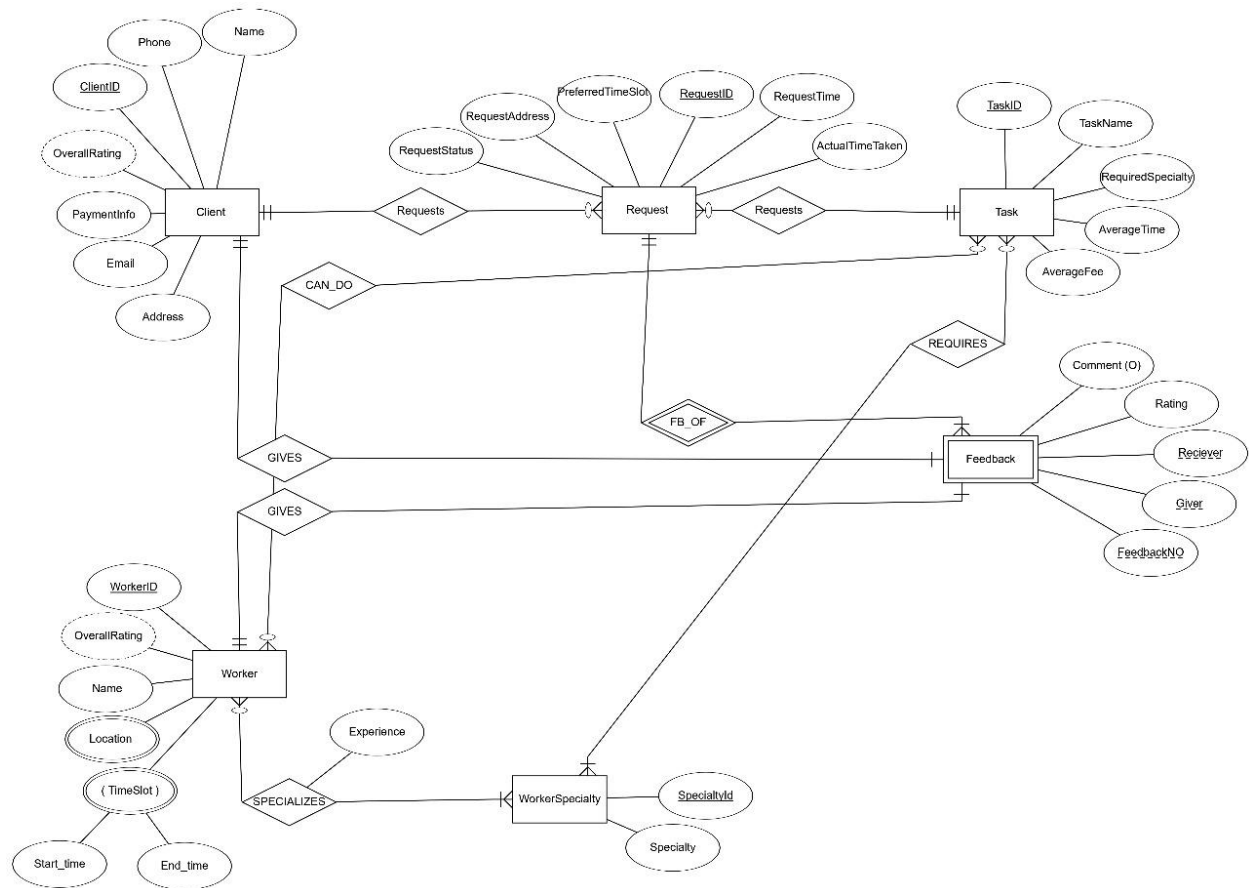
Introduction to Database Systems

Task-Worker Matching

Section 23 - Nourhan El-Khodary

(General)

ID	Name	Email	Mobile
20231121	Farida Ahmed Abdelaziz	feryabdelaziz@gmail.com	01143535227
20230080	Ayman Ahmed Abd-Elsamie	aabdelsame510@gmail.com	01021723623
20230547	Mohamed Ehab Sabry Saber Kandil	messk8@gmail.com	01097263263
20230242	Ali Mohamed Abd El Moneim	sherlockholmes2005789@gmail.com	01013900440
20230074	Eyad Tamer Naguib Ahmed	eyadmohandiss@gmail.com	01023255966
20231210	Yousef Hosni El-Sherif	hosniyousef21@gmail.com	01145889791



Functional Requirements :

FR - 1	The system shall allow workers to register by providing their WorkerID, name, location(s), available time slots, and specialties.
FR-2	The system shall allow clients to register by

	providing their ClientID, name, phone number, address, email, and payment information
FR-3	The system shall calculate and maintain an overall rating for both workers and clients based on received feedback.
FR-4	The system shall enable clients to create task requests including task type, required specialty, preferred time slot, and address.
FR-5	The system shall match tasks with available workers based on specialty, location, and time slot availability.
FR-6	The system shall allow workers to view and accept/reject matched tasks.

FR-7	The system shall track the execution status of each request (pending, accepted, in-progress, completed).
FR-8	The system shall record the actual time taken for task completion.
FR-9	The system shall allow both clients and workers to provide feedback (rating and comment) after task completion.
FR-10	The system shall associate feedback with specific task executions
FR-11	The system shall maintain a list of worker specialties with associated experience levels.
FR-12	The system shall allow workers to add/update their specialties and experience.

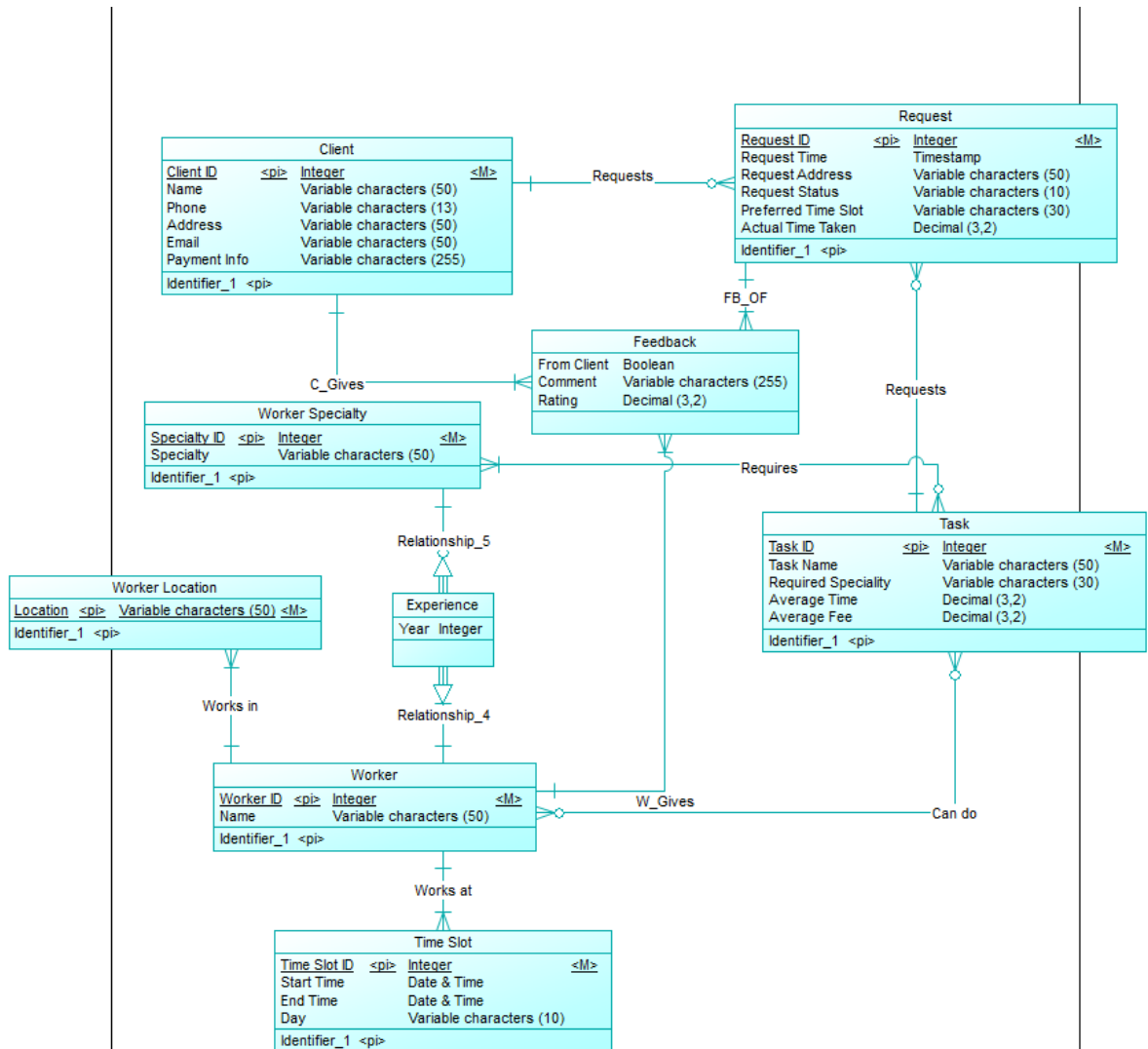
Entities:

Entity Name	Type	Attributes
Worker	Strong	WorkerID (PK), Name, OverallRating (Calculated), Location(Multi valued), TimeSlot(Multivalued)
WorkerSpecialty	Strong	SpecialtyID(PK), Specialty, Experience
Client	Strong	ClientID (PK), Name, Phone, Address, Email, PaymentInfo, OverallRating (Calculated)
Task	Strong	TaskID (PK), TaskName, RequiredSpecialty, AverageTime, AverageFee
Request	Strong	RequestID (PK), RequestAddress, RequestTime, PreferredTimeSlot
Execution	Associative	ExecutionID (PK), ActualTimeTaken, RequestStatus,
Feedback	Weak	Rating , Comment , Receiver , Giver , FeedbackNO

Relations:

Relationship	Between	Cardinality	Participation
Requests	Client — Request Request — Task	1 Client : 0..N Requests 1 Task : 0..N Requests	Total on Client, Partial on Requests -- Total on Task , Partial on Request
Executes	Request — Execution — Worker	1 Request : 0..1 Execution 1 Worker : 0..N Execution	Total on Request , Partial on Execution - - Total on Worker, Partial on Execution
CanDo	Worker — Task	1 Worker : 0..M Tasks 1 Task : 0..1 Workers	Total on Worker , Partial on Tasks
Specializes	Worker — WorkerSpecialty	M Worker : 1..N Specialties	Total on Worker , Partial on Specialties
Gives	Worker — Feedback Client — Feedback	1 Worker : 1..N Feedbacks 1 Client : 1..N Feedbacks	Total on Execution
FB_OF	Feedback — Execution	2 Feedbacks : 1 Execution	Total on Both

Conceptual updated ERD diagram using power designer:



Physical transformed ERD diagram using power designer:

