A certain small business/company wants to create a Help Desk to assist them and their customers/clients with service and product related concerns. There will of course be varying levels of complexities to this system, but what they are looking to do right now is to design the database-based ticketing system on which this Help Desk system will function. The expected operations and use of the system is as follows:

* A user is a person that can use the ticketing system and whose information is stored in the ticketing system.
* Each user has a unique user ID, a first name, last name, phone number, and an email address. Each user can be either an employee or a customer, but not both.
* Customers are able to create tickets only for themselves, referred to as “self-service” tickets. A customer cannot assign tickets to an employee.
* Customers are defined by the company’s relation to them. The company can act as either a contractor or a provider to the customer. Each customer’s address is also stored in the database
* If the company is a provider to the customer, then they are providing the customer with some sort of access to their services. If the company is a contractor to the customer, then they are providing some form of work/assistance to the customer, usually in the form of maintenance or management of their systems.
* Employees are able to create tickets for any customer or employee (including themselves). They can also assign tickets to any employee (including themselves).
* The system will store interactions/requests between users in the form of service tickets. Each ticket will have a unique identification number of at least 8 digits, and will contain information on the method of contact, the person who created the ticket, the person the ticket was created for, and the person who is assigned to work on the ticket.
* A ticket can have one of three methods of contact: Chat, Phone, and Email
* The field containing the person assigned to the ticket can be left empty. Self-service tickets will always have this field empty when they are first created. The field can only be changed by an employee
* Each ticket contains a short description and a full description. The short description is similar in use to the subject line in an email or letter. It describes the ticket in 1-2 general sentences. The full description is similar to the body of an email/letter. It lists all the relevant information and any additional details that the short description does not provide.
* Each ticket will have a category (Software, Hardware, and Inquiry/Help)
* A ticket is marked as resolved if the interaction/request is completed. A ticket is marked as open if the interaction/request has not yet been completed or is awaiting completion.