CS 353 – Database Systems

Project Proposal

Online Professional Hiring System

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Contents

1. Introduction

This report is about our proposal of an Online Professional Hiring System and includes the description of our application. In the report, the main goal of this project, it's basic functionalities, the requirements, limitations will be covered and why a database is going to be used as a part of this project, and how it is going to be used will be discussed.

The report starts with the project description section, in which the basic features and functionalities of the system is explained. Furthermore, this section also answers why we will use a database and how can we use it as a part of the Online Professional Hiring System.

After the project description section, the report continues with requirements section which includes explanations about functional requirements, non-functional requirements and pseudo requirements. The functional requirements describes the basic functionalities of the users. In the non-functional requirements, we have described the design goals of our system. In the pseudo requirements part we have covered the technologies that we are going to use in order to implement the system and in the limitations section, we have covered the constraints and boundaries of our project.

The conceptual design section follows the limitations section and in this section we have provided the E-R diagram which is designed with respect to the functional requirements, and is going to be used as a starting point for our database design.

2. Project Description

Online Professional Hiring System is a web-based application for hiring and providing services. The system is designed to be used by the regular users who wants to hire a service and professionals who will be providing the services. The system includes information about registered professionals and their field of expertise, services provided by professionals. Also, the system will allow regular users to rate the professionals they hired and fill an evaluation form, which includes their comments about both the work they have received and the professional. Furthermore, the system will keep information about the cost of services. As stated above, the system has two end-user types, professionals and regular users. Both of these end-users will be

able to login to the system and set their information which are relevant for their roles. For example, professionals will be able to set their background information and indicate what type of service they are providing and set a price with respect to the workload of that service (i.e price for a home-cleaning service will be determined through the number of rooms that will be cleaned), whereas regular users will be able to set their address and contact information. Also, regular users will be able to define what service they require, select a time slot for an possible appointment and the system will notify the user with a list of professionals that are available during that time interval and who are relevant to the service that the user requires. As an additional functionality, we aim to provide professionals to propose collaboratively to a single request.

Our aim is to establish an online platform for professionals and regular people to help their communication. Furthermore, we aim to provide a universal and safe system which is easy to use.

2.1. Reasons of use of a database for Online Professional Hiring System

In order to create a system which is going to provide an online service for hiring professionals, we will need to work with a vast array of information about the services, professionals, and regular users. Furthermore, actions such as, time schedules, regular user ratings need to be regulated and data should be updated with respect to these actions, so that the users will not encounter misleading situations. So, working with such a large amount of data would be hard without using a database system. Therefore, by using a database, we can store and regulate the data needed for the Online Professional Hiring System in a more organized way.

2.2. How is the database going to be used as a part of the project

Building such an application, requires us to store user information and match them to relevant entities and other users. This matching process depends on data provided to the system, which will be stored in the database. Database will use queries to match services on demand. Also, in order to regulate the data which can change in time, such as the rating of professionals, we will need to update the database. This update will occur with the creation of new entries or by updating the current entries. In addition to all these, the database will

provide information about the record of the regular users which includes the professionals that they hired previously.

3. Requirements

3.1. Functional Requirements

The professional hiring database system supports two end-user types; service provider and service requester. Both of the users have to be authorized to use the system.

3.1.1. Regular users

- Regular users should be able to see provided services.
- Regular users should be able to see information of service providers.
- Regular users should be able to see information about a service provided.
- Regular users should be able to select a time slot.
- regular users should be able to fill the required information about the service.
- regular users should be able to rate the service they took and provide a rating to the professional indirectly.
- Regular users should be able to fill the evaluation form about service provided by the professionals, which includes personal comments.
- Regular users should be able to compare different proposals for a service.
- Regular users should be able to cancel a request.
- Regular users should be able to modify a request.
- After finalizing an agreement with an professional, Regular users should be able to decide hiring an additional service, which is related to the main service, e.g if a regular user hired a professional for house-painting service, the system will ask the regular user whether or not he/she requires house-cleaning service after the painting is done.

3.1.2. Professionals

- Professionals should be able to register their services.
- Professionals should be able to update information of their services.
- Professionals should be able to set price for a specific workload.
- Professionals should be able to view the time schedule.
- Professionals should be able to prepare a proposal.
- Professionals should be able to cancel a proposal.
- Professionals should be able to modify a proposal.
- Professionals should be able to propose a collaborative service to a regular user.

3.2. Non-functional Requirements

3.2.1. Authentication & Security

- Every user must have a password with some security requirements such as length, must include a number in it, etc.
- Each user type can login but services which they can use are different.

3.2.2. User-Friendliness

- The system is expected to be used by professionals and regular Regular users who may not be proficient users. Therefore, user interface should be simple and explanations should be clear.

3.2.3. Reliability

- The system should be reliable and should not fail. It should recover in a short time if it fails. System should minimize data lost when it fails.

3.2.4. Capacity

- The system is expected to store large amounts of data, thus storage capacity requirements should be high.

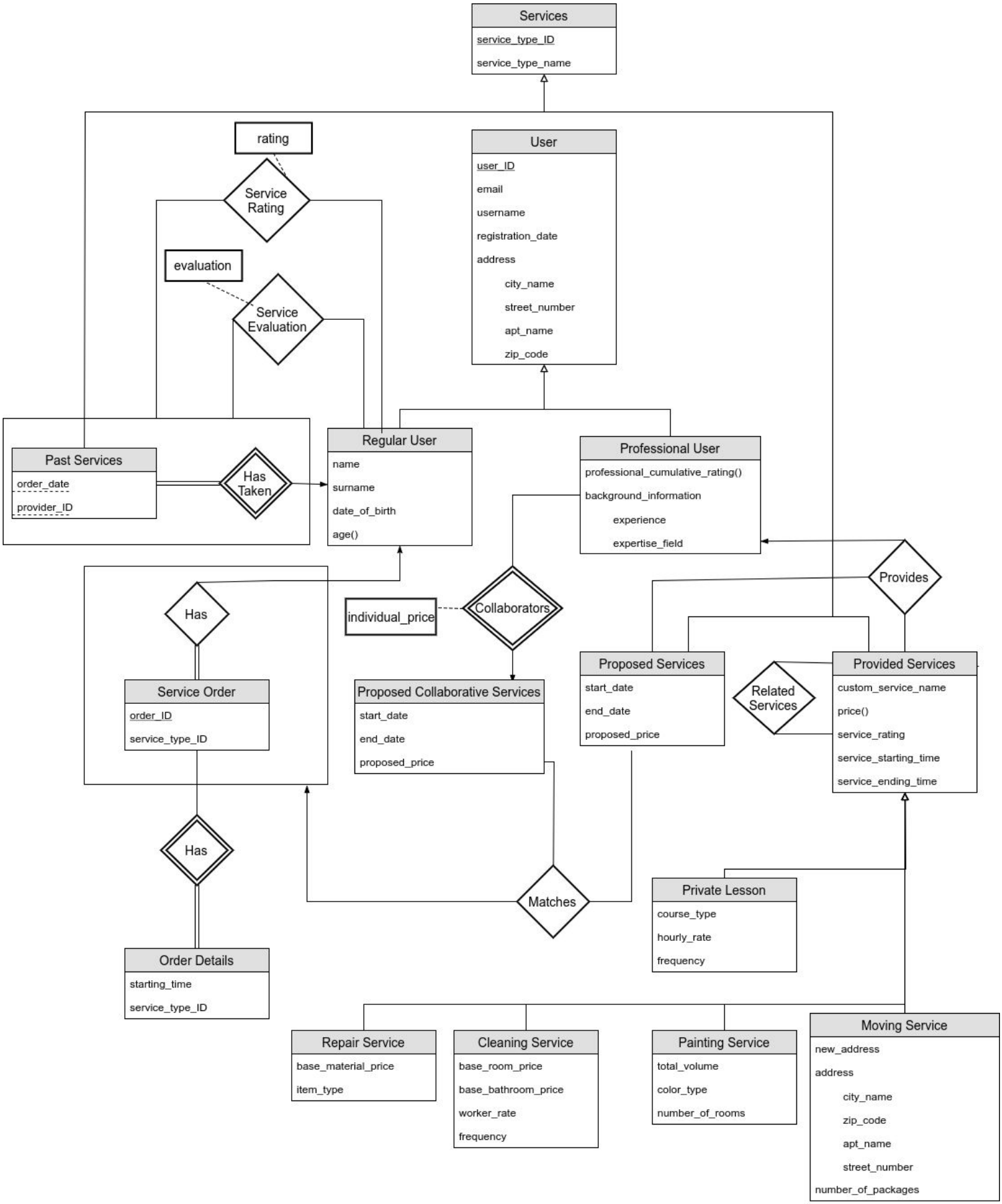
3.3 Pseudo Requirements

- MySQL will be used for implementing the database.
- CSS, HTML, JavaScript and JQuery will be used for the front-end implementation of the website.
- PHP will be used for the back-end implementation of the website.

4. Limitations

- Regular users can only rate and evaluate a service once.
- Regular users have to provide required information about the service, e,g. if a regular user wants to hire a home removal company, then he/she should state information like how many boxes will be transported, from where to where, etc.
- In order to rate or evaluate a professional or a service, Regular users have to get a service from that professional.

5. Conceptual Design, ER Diagram



The relationship of Proposed Collaborative Services, Collaborators and Professional User are to accommodate additional feature to allow multiple professionals to propose collaboratively to a single request. Related Services relationship will be used to store information about related services which can be used for offering services which a user may be interested. The system allows a regular user to rate Past Services which he/she has taken. Past Services store information to access the professional who offered the service. These information will be used to calculate the rating of a professional and relate evaluations to the professional. Inheritance of provided services allow storing specific data for services.

6. Conclusion

The Online Professional Hiring System is a web-based application for matching professionals with people who need a service from the professionals. It can provide operations for both professionals and regular users.

In this report, we described the purpose of the project and gave information on the project. Also, we discussed the significance of designing and implementing a database management system for a such a real life problem. After describing the project, we discussed requirements. We divided requirements into three groups. These are functional, non-functional and pseudo requirements. We tried to explain functional requirements with respect to users. Non-functional requirements are more like the goals that we need to achieve while implementing the system. Finally, pseudo requirements include implementation details of the system. In the end, we clarified the limitations of the system.

Then, at the final part of the report, we included an E/R diagram to visualize and explain our design.

7. Website

https://github.com/BecerZ/hiring_system