

Criterion A: Planning

Tourist Database Management System

Defining the problem:

The client for my internal assessment is Mr. Sukendra Gopal Gurubacharya. He is my father and the executive director of a tourism firm at Kathmandu. He is a very busy man, working multiple hours a week.

Upon questioning his busy schedule, he said that the client work in the office was inefficient, causing loss of valuable time and was a major flaw he had in his firm. His business consists of working with many clients from all over the world visiting Nepal and it gets difficult to keep track of every client and their details. He and his employees have to manually enter every single client detail and it takes time to find a particular client on a moment's notice.

We discussed the problem and me being a computer science student, thought of a possible solution to it. I would develop a tourist database software which would allow my father and his employees to digitally CRUD and search client data to remain in contact with them. This would make the company's work much easier and efficient while being a good project for my computer science internal assessment.

To know more about the client database, I carried out an informal conversation that night to discuss his requirements for the software and he followed up with an email.^{1 2}

¹ The conversation is attached in Appendix 1.1

² The email is attached in Appendix 1.2

My advisor for this project is my IB Computer Science teacher, Mr. Prayaschit Bhandari. He is a technical savvy person whom I can rely on if I encounter any problems while making this software.

Word Count: 250

Rationale for Solution:

My solution to this problem will be to use database software to meet my client's requirement. The database I will be using is MySQL database. Databases provide minimum redundancies and saves storage space which makes data entries efficient and reduces mistakes. It will have a multiuser feature which allows this software to be used by my father and his employees to Create, Read, Update, Delete (CRUD operations) and search client data. Databases are also secure and no client data would be leaked. The programming language of choice for this is Java as it is easier to use and understand, is platform-independent, includes object-orientated programming and is modular. For the Integrated Development Environment, I am using NetBeans IDE because:

1. I am familiar with it as our course consisted of using Java in NetBeans for programming,
2. It has a user-friendly and easy to use Swing Graphical User Interface and has a visual editor,
3. It has its own database, Derby, which can be used to store the client details but for this project I have used MySQL through MAMP phpMyAdmin server,
4. It has a proper error debugging system which will make the algorithms correct throughout the program,
5. And finally, it is an open source.

Word count: 206

Success Criteria:

The fulfillment of the following criteria would assure the development of a successful software:

1. Have multiple users input data i.e. employees,
2. An error-free signup and login window for my client and his employees to access the database,
3. FAQs section for the staffs if they are confused when using the software, user manual,
4. Users registered in the system can view their colleagues,
5. The CEO is the only one allowed to fire staffs but not itself, having access rights,
6. Data entry forms will allow my client and his employees to enter their client information easily,
7. Being able to update and/or delete client data from the database,
8. Printing the client receipt with their expenses,
9. Searching for a specific client is possible when required,
10. Emailing that specific client is possible when required,
11. Changelog from different accounts,
12. To have an efficient database,
13. A minimalistic and user-friendly environment for the user to input data effortlessly.