**Final Analysis & Design Report**

**IST654 Information Systems Analysis**

**Group - 8**

1. **INTRODUCTION AND BACKGROUND OF BUSINESS:**

Meeting Makers has been one of the big companies in arranging and managing events for businesses since 1988. They have catered to a variety of business needs such as arranging conferences and meetings. This company has worked with numerous organizations over the years to help them execute their vision of conducting their meetings and conferences. Companies have trusted meeting makers with their reputation and credibility when providing their contracts to host their clients or colleagues, from their own or other organizations. They have also tried to accommodate the company’s requirements within their budgets and provide clients with an extravagant experience. Although this company has been moving forward quite well over the years, after performing our analysis of the company information systems, there are some issues that we have come across that will be discussed further.

1. **CURRENT INFORMATION SYSTEM & SUPPORTING DOCUMENTS:**

Conference and meeting planners benefit from the services provided by Meeting Makers. Meeting Makers has grown rapidly over the past six years, and last year they oversaw 130 separate conferences. The present database requires Meeting Makers to inquire about the client's preferred location, date range, guest count, budget, and optional extras. They use this data to determine the bid for their services and assign one project manager to the task.

As the project manager gets ready for the bid, he or she goes through the list of hotels and puts them on tentative hold. Meeting Makers staff use a template form to figure out how much the registration process will cost for formal events. The expected number of attendees is put into the template form, and the template then figures out how much it will cost to mail out registration information, do pre-registration, and have people at the event to help with on-site registration. Once the Project Manager has gathered all the information, bids are organized and put together in a word-processing program. Meeting Makers send the client two to three options and a range of prices for each. In their current system, each member of staff has a computer with Windows, Excel, Word, and Access on it. Software for sharing printed materials has been put on these computers. The information about Meeting Makers is kept in an Access system. The information is kept in one master database, which has three tables. This database is kept on a single computer. Seven people who work in the office know the basics of Excel and Word.

Supporting documents: [Supporting\_Documents-Meeting Makers](https://docs.google.com/document/d/1XzrVtErbJZx50PVyjqdPVyk0wyw5Mt0v3ggE3tQfM0U/edit?usp=sharing)

1. **PROBLEMS WITH** **THE CURRENT INFORMATION SYSTEM:**

* Several hotels are not willing to place holds for Meeting Makers and received penalty charges as the Project Managers have forgotten to cancel the hotel which was placed on hold.
* Difficult to prepare bids for Graphic Designers, as the information is not recorded anywhere.
* The information of additional activities in the nearby cities is not recorded in the files.
* There is no sharing of software or files through the network of Meeting Makers.
* Low productivity of staff as the database is stored on one PC, the staff and PMs use the PC alternatively to complete their work.
* Some office staff members only have basic training in MS Excel and Word and are not comfortable performing out-of-scope activities.
* Excessive workload on a daily basis due to which they do not have time to explore learning other capabilities of the systems.
* Losing customers due to inaccuracy in the bids, lacking care, and not meeting deadlines.
* Issues in primary key integrity cause database problems.

1. **PURPOSE AND SCOPE FOR** **FUTURE INFORMATION SYSTEM:**

The purpose of the system would be to establish an efficient flow of information resulting in accurate data retrieval for flawless creation of bids and meticulous management of the event. The system scope covers the complete handling of booking of hotels and additional venues for stay and registering for activities, along with all forms of communication with them; brochure designing and printing; maintaining, updating, and querying on a database for data recording, extraction, and analysis; management of the IT systems in the office along with training the staff. The problem for future IS would be the obsolescence of the technology stack in use. The system currently uses outdated tech to manage information.

1. **FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS:**

**Functional Requirements:**

* Cloud-based system to store and simultaneously edit all the documents.
* Restructure the relational model to solve primary key problems and make all databases cloud-based.
* System to set and receive reminders to book and cancel hotel reservations and alert project managers.
* Animation software for better brochure design.
* Database for brochure cost estimation.
* System to check and record venue availability.
* Program to track, predict and eliminate bidding and booking errors.

**Non-Functional Requirements:**

* Brochure cost estimation and the design system should be managed by a team, instead of an individual.
* Arrange workshops to make the employees more acquainted with the information system.
* A centralized software or web interface with explicit access to manage all the functional systems and databases.

1. **RECOMMENDATIONS:**

* Updating systems to modern technology stacks, such as using Oracle databases with MySQL, MS Excel, etc.
* Hiring one more staff member trained in querying just for handling data retrieval and analysis
* Making excel sheets with accurate information available to graphic designers in a timely manner
* Making the Oracle database accessible to other PCs the local Wi-Fi network to increase productivity
* Reevaluating the database relational model to ensure primary key integrity
* Establishing a direct connection between designers and project managers
* Having a staff member regularly check the reservation status

1. **Context DFD:**

Text

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1. **Level-0 DFD:**

**Diagram

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**Data stores:**

D1- List of client details. It is used to identify and store new client information.

D2- Stored requested information about hotels, costs, brochures, and activities.

D3- Stored list of different hotels in the city

D4- Stored information on the registration spreadsheet

D5- Stored information on brochures, their design, and costing.

D6- Recommended activities are stored in the D6 activity log and the recommendations are provided to the client based on the event location.

D7- After the bid is approved by the client, the confirmation is sent, and the bid information is stored in Bids D7.

1. **BASIC ERD:**

Diagram

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1. **Extended ERD:**

Diagram

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1. **BUSINESS ASSUMPTIONS:**

* A client can host multiple events, but a given event can only be hosted by one client. The relationship is mandatory because there needs to be an event for the client to become a client.
* An Event has a one-to-many relationship with the Bid because an Event can receive multiple Bids, but a given Bid can only be hosted by one Event. It’s optional because the client may not receive a bid (hotel unavailable).
* Bid Hotel can refer to only one Hotel, but a given Hotel can be referred to many Bids Hotel. The relationship is mandatory one because the Bid Hotel must refer to a given Hotel.
* One Bid Registration can refer to only one Registration, but a given Registration can be referred to many Bids Registration. The relationship is optional because zero Bid Registration might refer to a given Brochure (The client doesn't require formal registration).
* One Bid Brochure can refer to only one Brochure, but a given Brochure can be referred to many Bids Brochure. The relationship is optional because zero Bid Brochure might refer to a given Brochure (The client doesn't want any brochures).
* The Bid Activity can refer to only one Extra activity, but a given extra activity can be referred to many Bid Activities. The relationship is optional because zero Bid Activity might refer to a given extra activity (The client doesn't want any extra activities).

1. **UML:**

**Use Case:**

**Diagram

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**State Transition:**

**Diagram

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**Class Diagram:**

**Diagram

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**Sequence Diagram:**

**Determine hotel availability**

**Diagram

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**Estimating brochure cost**

**Diagram

Description automatically generated**

1. **USER INTERFACE:**

**Website Home screen**

Graphical user interface

Description automatically generated with medium confidence

**User Login Page**

**Graphical user interface, application

Description automatically generated**

**Event Information Input screen**

**Graphical user interface

Description automatically generated**

**Back End Hotel Registration Screen**

**Graphical user interface

Description automatically generated**

**Bid Options Screen**

**Graphical user interface

Description automatically generated**

**Registration Summary Screen**

**Graphical user interface, application, Teams

Description automatically generated**

1. **LESSONS LEARNED:**

The key lessons learned are as follows:

* We learned how a system analyst performs his task by gathering data and analyzing the data according to the needs of the stakeholders.
* The Data flow diagrams also known as the DFD’s give us a clear idea of the flow of data and what are the essential components of the system.
* We learned to understand the project requirements that are essential to complete a project.
* Understanding the project life cycle SDLC because a lot of factors depend on this, and parameters are changed during the life cycle.
* A key aspect of a project is to check the quality of the finished product and the performance of the system.
* Communication is an important factor in a successful project between the team members and the stakeholders to understand their points of view and requirements.
* Knowing the customer's requirement is essential because a project can only be successful when the customer is satisfied.
* We also came across various software and learned to perform various functions.
  + Draw.io
  + Visio
  + Figma
* These enabled us to visualize the system output and system structure. Understanding the different entities and their roles according to the requirements.

1. **Problems and Difficulties Faced:**

* One of the most difficult concepts to understand was the system requirement and specifically differentiating between the functional and non-functional requirements.
* Understanding the current situation and systems of the company was a difficult part to make our suggestions different from what the company had now.
* Building the user interface was a new experience since we hadn’t done anything similar before.
* Each member had a different system flow diagram and understanding each point of view and coming up with a system that all agreed on had its own difficulties.
* There were some difficulties in understanding the relations between various entities and the suggestions that can be implemented at the back end.

1. **Experience Gained:**

* The experience of course has been a great journey as we learned new things and implemented this project by putting our knowledge to use. Initially, we were not aware of so many terms that were introduced at the start of the semester and we all felt a bit overwhelmed by the slowly we gained experience in all these skills.
* Performing this project helped us to use the knowledge gained in the class and to get together and learn how to communicate our ideas better and how to function in a team.
* This course also taught us new software which is always a great plus to have while looking for jobs and opening new opportunities.

**INTERACTION WORKSHEET**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Attendees | Ways of Communication | Appx. Duration/  Length | Topic | Major Decision | Other Comments |
| 9/8/2022 | Teammates | In-Person | 15 minutes | Assigning Responsibilities | Medium of Communication, Team responsibilities, Next meeting time | We also decided to read and analyze both the cases before the next class |
| 9/11/2022 | Teammates | Online meeting | 30 minutes | Case Discussions | Understanding each other’s point of view about the cases | Discussing the issues within both the case studies |
| 9/15/2022 | Teammates | In-Person | 30 minutes | Choosing the case | Resolving conflict of opinions and going ahead with one case | Next meeting agenda |
| 9/17/2022 | Teammates | Online meeting | 30 minutes | Format for Proposal | Divided the rubric between each of the team members | Setting next meeting agenda |
| 9/20/2022 | Teammates | Online meeting | 15 minutes | Status on progress of work | Decided the timeline for completion and final review | Setting next meeting agenda |
| 9/21/2022 | Teammates | Online meeting | 30 minutes | Final Proposal Review | Consolidated the points and reviewed the proposal before submission | Submitted the Proposal with Interaction sheet and evaluation |
| 10/13/22 | Teammates | In person Meeting | 15 minutes | 5.3 Assignment review | Analyze the assignment and what has to be done | Setting up meeting agenda |
| 10/20/22 | Teammates | In person Meeting | 15 minutes | Case Analysis and ideas | Reviewing the proposal and brainstorming ideas to create diagrams. | Next meeting decided after class |
| 11/3/22 | Teammates | In person Meeting | 15 minutes | Work distribution | Deciding which diagram must be done by whom. | Decided to do the business assumptions  later |
| 11/6/22 | Teammates | Online meeting | 40 minutes | Work update and assumptions discussion | Providing updates and helping teammates. | Next meeting is documentation |
| 11/13/22 | Teammates | Online Meeting | 60 minutes | Documentation and final review | Writing the business assumptions and documenting the assignment | Submitting the document on 15th |
| 11/28/22 | Teammates | Online Meeting | 30 minutes | Work distribution | Decided how are we doing the next report. Divided work | Next meeting agenda |
| 12/03/22 | Teammates | Online Meeting | 40 minutes | UML & UI work updates | Discussed about the progress of UML and UI | Next meeting for Finalizing UML & UI |
| 12/05/22 | Teammates | Online Meeting | 2 hours | Reviewed all the diagrams | Made corrections and asked for feedback from everyone | Next meeting for dividing ppt work |
| 12/06/22 | Teammates | Online Meeting | 30 minutes | Divided the work for ppt presentation | Finalized the Report | Next meeting for ppt finalizing |
| 12/07/22 | Teammates | Online Meeting | 30 minutes | Finalized ppt | Making sure everyone is ready and all set | Submitted all the work |

* Group Members: Ankita Vartak, Forum Dattani, Rutwik Ghag, Vishal Pandey

**Project Authorization and Approval**

Meeting Makers: ­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_