Justin Ely

ITS 465-MC01

Dr. Umesh Varma

February 22, 2021

Problem Analysis – Twin Peak Billing Software

1. The Problem Domain
   1. The current problem with the system that is in place is that it was meant for a much larger business. The gym that Twin Peak is being designed for is a small, local gym with less than 500 members. The cost of the current system does not make sense for this gym as the members and billing could be managed at a much smaller scale while still maintaining accuracy in member data and reporting. With the current system, the “New Member Entry” process is too long and involves too many tabs with information that is not needed, causing user error and possible loss of income based on that user error when entering data. The current system does not possess an easy user interface, the tabs are confusing and there are too many that can cause error in the data entry.
2. Analyze Problems and Opportunities
   1. Eliminating the cost of the current system would increase profits for the owners by over $4,000.00 per month. A good way to think of this is regarding the rent on the space being used to house the gym. The current rent on the property not including insurance is $3,500.00. Creating a database with Microsoft Access that will maintain accuracy of member data while still allowing reporting features that are crucial to growth and sales will essentially pay the rent on the property. Generally, the owner would not be able to create such a database and would have to hire someone to create and maintain it. However, they have an employee who is willing to do it for them. The user interface and member entry procedures must be able to ensure that everything is done properly and that the risk is low regarding errors.
3. Analyze Business Processes
   1. The business process starts as a new prospect enters the gym inquiring about a membership or personal training option. An important note here is that for a member to take advantage of our personal training option, they must first have a membership. The business process continues as the new member is booked for an appointment with a fitness manager to present the sale of personal training to the new member. Currently these appointments are booked through Google Calendar, which has been working very well for the business. Once the new member is entered into the database, their “Member Number” will link them to a couple different tables such as: Billing Info, Contract Info, and Services. The billing info is set in the Billing Info table that is referenced by the Accountant that works for the owner. There is only one accountant that manages the billing of the membership and the additional service so updated information and ease of access to the data is important in the Business Process.
4. Establish System Improvement Objectives
   1. The new system will be improved using Microsoft Access to manage the members’ data using various tables that are linked using primary and foreign keys. Once these tables are created, various forms will also be created to enter new data that will be easy for employees to create new members and new services like personal training. It is important for the user interface to be clean, easy to use, and with a low possibility for error. The manager at this location will verify all new data entered on a nightly basis to ensure that data has been entered properly, re-training of employees on data entry can be scheduled, and all billing info is accurate and scheduled properly. Finally, the database will consist of many important queries that produce reports that are crucial to member management, billing, renewals, expirations, and cash flow.
5. Proposed Timeline
   1. February 22, Problem Analysis Complete
   2. February 28, Tables created and linked with keys
   3. March 4, “New Member” form complete
   4. March 8, Requirements Analysis Complete
   5. March 12, all forms complete
   6. March 19, all queries and reports complete
   7. March 25, Decision Analysis Complete
   8. March 29, Final Design Complete
   9. April 12, System and Database Testing Complete
   10. April 18, Implementation and Training Complete, Operations and Support Complete
   11. April 21, Final Report Complete