

## **Teaching Case**

# **Convention Center Management: A Systems Analysis & Design Course Project**

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### **ABSTRACT**

A challenge faced by many instructors of systems analysis and design courses is the selection or development of projects that provide challenging, yet suitable, learning experiences for the students. Employing a system development project case in undergraduate MIS courses offers students a multitude of opportunities to experientially examine real-world problems that require real-world solutions. This case provides a proposed experiential learning opportunity for students enrolled in the Systems Analysis & Design course. The learning objectives, project specifications and system requirements are presented, all of which provide students with the information necessary to complete each of the phases of a systems analysis and design methodology. Teaching Notes that offer reference materials for instructors are also provided.

**Keywords:** Systems Analysis and Design

### **1. CASE LEARNING OBJECTIVES**

The semester project is structured as a group effort; however, it is extremely important for each student to have an opportunity to participate in all phases of the project, with the workload evenly spread so that no one person bears the burden of too much work. This teamwork approach should provide appropriate learning opportunities for all. The learning objectives for the case are as follows:

1. To provide each student with an opportunity to work with other students in team-building exercises, which emphasize individual contributions to a team effort, aimed at solving real business problems.
2. To expose each student to a situation that is conducive both to the development and the enhancement of the student's problem-solving, analytical abilities.
3. Gain insight about the use of information technology (IT) for support of operational, tactical, and strategic levels of management for the firm.

### **2. PROJECT SPECIFICATIONS**

Each group must employ the following phases of the systems analysis and design methodology, which is a variation of

those described by Whitten and Bentley (2008): 1) scope definition (i.e. identify baseline problems and opportunities; develop baseline scope; develop baseline schedule and budget); 2) problem analysis (i.e. understand the problem domain; analyze problems and opportunities; establish system improvement objectives); 3) requirements analysis (i.e. identification of functional and nonfunctional requirements of the system); 4) logical design (i.e. creation of context diagram; creation of E-R diagram); 5) decision analysis (i.e. identification and analysis of candidate solutions; recommended solution); 6) physical design and integration (i.e. physical design and integration of system); 7) construction and testing (i.e. construction and testing of system); 8) installation and delivery (i.e. selection of appropriate implementation methodology; creation of user manual; post-implementation review); 9) system operation and maintenance (i.e. system use and operation; system maintenance, updates, and revisions). In the above, steps 8 and 9 are optional. Each group is also responsible for creating a video presentation to summarize the various aspects of the project.

The essence of the project involves the analysis, design, and development of a database solution (Microsoft Access) for booking and events planning at the City Dome and Convention Center. Group members are charged with designing a database that handles the booking and events

planning for both of these venues. The remaining paragraphs present a fictitious explanation regarding this case.

At the present time, when an individual or company calls to make a reservation at either the City Dome or the Convention Center, the entire process is handled manually and by one office (located offsite). With the recent population growth experienced by the city, it has become nearly impossible for the current scheduling office to handle all of the paperwork. Harry Underwood (Office Manager) and Kathleen Wallace are the only individuals working in the scheduling office at this time. Everything is quite disorganized with constant mistakes being made (i.e. double-booking of some of the rooms in each of the venues). Such errors are unnecessary, time-consuming, and costly. It is, therefore, imperative to implement a database solution as soon as possible. And while it is necessary to ensure that the fundamental aspects of the scheduling process are reflected in the database solution, the inclusion of features that aid in a user-friendly interface and quality-enhanced reporting, for example, would be welcomed. The immediate concern is to make certain that efficiencies are improved with regard to the storage of data pertaining to event scheduling (e.g., customers, venues, etc.). The handling of this data manually has become too slow and cumbersome and Harry is becoming increasingly frustrated with the inefficiencies. He is hoping that this database solution will not only resolve the problems they are currently experiencing, but will help to provide additional features and functionality that will enhance and streamline this business process.

The Office can afford to budget only up to a certain amount, although if other, less critical projects in progress are delayed, there may be some additional funding available. Specifically, \$35,000 is available to fund this project. The office currently has only one computer with a Microsoft Windows 7 operating system. Microsoft Office Professional 2010 is installed on this machine. The computer is currently being utilized for word processing tasks only. Harry is interested in providing Kathleen with a machine so that they both have immediate access to the data. Knowing that a networking solution will also be necessary, Harry has outsourced this element of the project to a different group. Therefore, you will need to assume that the computers will be networked (the existing machine coupled with the one you decide is necessary to purchase).

Harry is hoping that this database solution will be a successful first step in improving customer relations. It is of the utmost importance to Harry and his co-worker to have this work process automated, with a particular focus on ease-of-use, accuracy, and efficiency.

### **3. SYSTEM REQUIREMENTS**

In addition to the information presented in the preceding project specifications, Harry wants your team to focus on making data-entry as easy and efficient as possible for his staff, while simultaneously ensuring accuracy of the entries. The user interface should be simple and user-friendly.

The scheduling office is in charge of tracking information about customers, venues, and caterers. Since either individuals or organizations will be responsible for

booking events, it would be necessary to not only have a place to enter the name of some contact person (customer), but also the name of the organization as well. (Customer name will actually be the contact person. If there is an organization, then that will be listed separately.) The physical address, contact phone number, e-mail address, etc. are all stored for each customer. Furthermore, with respect to venues, the name of each room, the rental fee of that room, the room size (dimensions), capacity, and other facility specifications should be stored.

It is very important for employees to be able to help customers (or potential customers) in any way they can. For example, it is necessary for the system to allow an employee to help a customer who does not know which room they wish to book. (Sometimes customers call with information regarding the expected number of people who plan to attend the event, but are unaware of which rooms can accommodate such a number). Furthermore, it would be very helpful if the employees could check to see if the desired room size is available to the client on the date that they would like their event to be scheduled. Importantly, it is absolutely necessary that this system provides some sort of way to ensure that double-booking does not occur. That is, more than one event cannot be scheduled at the same time in the same venue.

Depending on the size of the event, the company sometimes has signed agreements with customers. Storing information regarding contracts in the database itself is beyond the scope of this project, but Harry is wondering if it might be possible to provide a place in the database where signed agreements can be 'attached', and therefore, viewed at any time.

If a customer calls to make a change to a reservation, cancel a reservation, or make changes to a reservation, the staff members would like to quickly access the reservation and all relevant information pertaining thereto.

It is also important for the system to keep a record of those reservations that were cancelled, as it is important to follow-up with these customers at some point later.

It is always necessary to provide the marketing office (separate from the scheduling office) with reports on a regular basis. At the present time, reports are typed and provided (manually) to this office. They use these reports as a basis for making decisions regarding promotional campaigns, target markets, etc. For example, the marketing office often requests that we provide them with a report that lists each customer and any/all reservations made by each customer. This information helps the marketing office to identify repeat customers and other relevant information. (Assumptions can be made here regarding any additional reports that would be deemed relevant and important for the marketing office. These additional reports should be created.)

Overall, Harry and his employees are open to any suggestions that your team may have regarding data-entry and reporting.

#### 4. REFERENCES

Whitten, J. L., and Bentley, L. D. (2008) Introduction to Systems Analysis & Design, 1<sup>st</sup> Edition, McGraw-Hill Irwin, New York, NY, pp. 4-578.

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