

# Systems Analysis & Design Course Project

This project was designed and updated by Dr. Jordan Barlow and Bruce Hunt, based on a case published by Brandi Guidry and Michael Totaro in the *Journal of Information Systems Education*, Vol. 22(1). Used with permission.

## 1. PROJECT 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. To provide each student some practical experience with concepts and skills that we are learning in ISDS-406.*

To this end, several project milestones will be completed individually. While this does not reflect real-world practice, I want to ensure that each individual has the opportunity to practice the concepts and skills of each phase. Then for the mid-semester deliverable and final project deliverable, teams will combine the best work of individual team members, complete some additional work as a team, and create a professional and complete deliverable that meets the requirements of the project.

## 2. PROJECT OPTIONS

Your group has two choices in regard to the project that you complete this semester:

1. You can elect to use the project case that the instructor has prepared (see Section 3 below). The case is loosely based on a former real-world project but has been updated and tailored to the course.
2. Alternatively, you can choose to reach out to an existing business (of any kind) to analyze its current business process. Once the team has gathered sufficient information about the existing business processes, they will then propose an updated design plan for the

business, using the same steps and tools that you would use if you chose the instructor-prepared case. You can pick any organization that you have access to (i.e., there is a manager or someone that you can interview and interact with). Ideally, it should be an organization that is either considering implementing a new system or an organization that has a business process that you think could be improved by a new system. (Some examples: a student business club that wants a better way to store information about its members; a small business that could use an improved website; a restaurant that could benefit from having a point-of-sale system, etc.) They don't have to actually implement the system in the end -- you just work with them to understand their current process (and what they think could be improved) and provide recommendations on a system that could help them. The only constraint is that it must be a real organization with a person in the organization that you can have regular contact with throughout the semester.

Using a real-world company for your project would look great on your resume and would be a great learning experience, even above what I can provide with a classroom case. Please consider this option.

### **3. COWBOY HOTEL CASE DESCRIPTION**

**Note: The following case describes a fictional company that has hired you as a consulting team to analyze their business needs and design a technology-based solution. This case will be used for the first HW assignment. For those student teams choosing not to use a real-world company for the project, this case will be used for all homework and project assignments.**

The essence of this case project involves the planning, analysis, and design of a software solution for booking and events planning of conference rooms at the Cowboy Hotel. The Cowboy Hotel is a local hotel that has recently expanded by adding a set of conference rooms, which will function in addition to its already-existing hotel rooms and suites. The Cowboy Hotel currently generates revenue of about \$400,000 annually on its existing hotel rooms and suites. It was able to pay for the construction of the conference rooms through a generous donation from a local philanthropist.

Your group is charged with designing a system that handles the booking and events planning for the new conference rooms. The Cowboy Hotel had contracted with a different IT consultant to design the booking and events planning software, but after extensive negotiations,

the contract fell through and that consultant was not able to deliver.

The construction of the conference rooms was completed just weeks ago, and the rooms are already available for booking. Because no booking software has been acquired yet, the conference rooms are not being advertised so as not to overwhelm the conference booking staff. However, a few rooms have been booked. Currently, when an individual or company calls to make a reservation for the conference rooms, the entire process is handled manually. Until software is acquired, it would be nearly impossible for the current scheduling office to handle all of the booking paperwork required to fill up the conference rooms on a regular basis.

The booking software that the hotel uses for their current bedrooms and suites was not designed to handle booking of conferences and events and does not meet their needs, so using the software that handles other parts of the hotel's business is not currently an option, unless it is determined to overhaul the entire system. Otherwise, hotel management is fine with using separate booking software for the conference rooms as they use for bedrooms and suites.

Jaime Bradson (Hotel Manager) and Josephine Leno (Customer Service Agent) are the only individuals working on conference and event booking at this time. Everything is quite disorganized, with constant mistakes being made (e.g., double-booking of a conference room recently occurred). Such errors are unnecessary, time-consuming, and costly. It is, therefore, imperative to implement a solution as soon as possible.

While it is necessary to ensure that the fundamental aspects of the scheduling process are reflected in the 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 would be too slow and cumbersome, and Jaime is becoming increasingly frustrated. He is hoping that this 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 new conference room scheduling office currently has only one computer with a Microsoft Windows 10 operating system. Microsoft Office Professional 2016 is installed on this machine. The computer is currently being utilized for word processing tasks only, and Josephine is the primary user of the computer. Jaime is interested in providing two additional machines to the conference scheduling office so that additional staff can use the space for conference and

event needs. Jaime would also like access to the conference room booking system on his own computer, which is in a separate office. It is of the utmost importance to Jaime and Josephine to have this work process automated, with a particular focus on ease-of-use, accuracy, and efficiency.

The hotel can afford to budget only up to a certain amount, due to going over budget on the construction project and the lost contract with the previous IT consultant. Specifically, \$40,000 is available upfront (during 2021) to fund this project. Jaime also anticipates that when the software is in place, sales on conference room bookings will increase as a result. A marketing consultant who has worked with other hotels in this region told Jaime that, generally speaking, sales from conference room bookings are usually around 20% of the revenue earned from booking suites and bedrooms by the end of the first year, with that number reaching up to 25% by the end of three years, along with a 5% increase of hotel room revenues due to people staying in the hotel when they arrive for the conferences and events held there. Some of the increased revenues in future years can help pay for the ongoing maintenance of the new booking system and process, along with paying the salary of new employees that will be hired in the future to work in the conference scheduling office.

In addition to the information presented in the preceding project specifications, Jaime 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.

#### **4. INTERACTING WITH THE CLIENT**

As discussed in the first module of class, it is critically important to keep the user involved in each stage of the development process. Therefore, please get in the habit of asking questions and clarifying assumptions with the client. Your instructor will act as the client in the Cowboy Hotel case. He has more detailed information about the desired functionality of the system than what is included in this brief overview document.