**Picnics R Us**

**Main Solution: Set Up Online-Order System**

* **Modernized Order system instead of telephone (Fast and effective)**
* **Upgrade Menu Catalog System (More time to browse the menu, Fewer abandoned orders)**
* **Develop Database for Customer Contact Information and employees (centralize all of information for business)**
* **Inventory Management Problem (helps restaurants keep the right amount of food and ingredients on hand so they have enough stock to serve all customers but also avoid spoilage and loss**.)
* **Merchant and retailer Problem**
* **Pricing Issue**
* **Upgrade Menu Catalog System**

Picnics R Us (PRU) is a small catering firm with 10 full-time employees and another 15 individuals who can be called upon to work at functions. During a typical summer weekend (Friday evening, Saturday, and Sunday), PRU caters to six picnics of 5-50 people/participants each. Normally 2 employees are needed to staff a small picnic, and up to 8 are needed to staff a large picnic. No special expertise beyond a weekend or two of apprenticing is needed for any operation performed during the picnic, so all staff members help out as needed. In food preparation, various employees play different roles, but experience has taught staff members how to stretch the timing of food preparation, so staff shortages have never been a problem.

* **Employee Database**

PRU maintains a list of employees and when they are available to take assignments, updating the list two months ahead for staffing purposes. In other words, on January 1, employees are expected to have their March availability posted; on February 1, their April availability is posted, and so on. PRU checks to see if staff members are available before tentatively scheduling a picnic, and it creates a formal assignment for each staff member when the scheduling of a picnic is changed from tentative to committed. This occurs when PRU receives the deposit for the picnic.

Pre-Launching Catering environment Process

Food is prepared at the central kitchen in the headquarters building and is transported to the location with cooling equipment to keep some menu items fresh. Heating devices are used to heat hot food items at the picnic. PRU maintains a large stock of cooling and heating devices so that they can handle an indefinite number of picnics at a given time. On the day of the picnic, staff members perform the following operations: (a) they set up the environment (e.g., tablecloths and decorations), (b) they prepare foods that can be cooked on site (e.g., hamburgers), (c) they present and display all cooked foods and pre-prepared foods, (d) they staff the buffet line, and (e) they handle any last-minute problems. After the picnic, staff members clean up. They also pack up any leftover food that the customer wants to keep, and they collect ingredients that weren’t used or other food that the customer doesn’t want and return them to inventory. Typically, customers will keep leftover beef stroganoff, whereas staff members will return with items such as salt, pepper, bread, and rolls. Some of these items can be stored and used in future picnics, and others can be used to prepare future meals (e.g., bread, even if a little stale, can be toasted and used as a coating on fried chicken). The remaining items are donated to a local food kitchen.

**Menu**

**- Upgrade Menu Catalog System-**

On the sales side, PRU has a set of 10 standard menus, including Italian, French, Mexican, and Barbecue. All picnics are served “family style” as a kind of buffet. Each standard menu consists of two main dishes (e.g., lasagna and chicken cacciatore), three side dishes (e.g., salad, minestrone soup, and marinated artichoke hearts), two desserts (e.g., spumoni ice cream and tiramisu), and a standard array of beverages (coffee, tea, lemonade, and bottled water). Naturally, the items vary from one standard menu to another.

Orders for a standard menu are usually placed for many participants. For example, a typical customer might order a 25-person standard Mexican menu. However, on some occasions, the customer may order 15 Mexican and 10 Barbecue dinners to serve the same 25-person picnic. In addition, the customer might want to add menu dishes. For example, in addition to the Italian menu for 25 people, he or she might want the prime rib (normally on the British menu) as an additional main dish. As a result, PRU maintains a list of menus and a list of each menu dish as a possible item to sell to its clients.

Each standard menu has a retail price per participant (with price breaks at key numbers). Each menu dish also has a retail price per participant. On some occasions, the customer wants something special that is not on the menu, such as a birthday cake. In these cases, the PRU staff member records the information and gives it to the owner. The owner then decides whether it is better to make or to buy the item, how much it will cost PRU, and what price to charge the customer. The transaction is not completed until the PRU staff person, generally, the owner herself contacts the customer with the price information for the special item. If the customer agrees, then this price is added to the overall order. Sometimes the customer decides to provide the item, sometimes the price is discounted in consideration of the overall value of securing the contract, and sometimes the customer simply agrees to the price and the order moves forward.

- Catering Equipments(inventory)

All picnics require such non-food items as plates, table coverings, plastic utensils, glasses/cups, and napkins. Customers can choose “fancy” versions of any of these items. These fancy items, such as ceramic mugs, are made of more permanent materials, and they may also have specialized text such as “Smith Family Reunion 2003” printed on them. Many people will select the fancy version of one item, but few will order the fancy versions of many items. Some additional items such as table decorations are also available. If the customer purchases these items, then he or she may keep them. However, if the items are only loaned to the customer, then the customer must pay a deposit to guarantee their return. Note that the customer is defined as the one who orders and pays for the picnic, whereas the participants are the guests of the customer on picnic day. Infrequently, the customer may not be a participant. For example, an HR specialist at a firm may order a picnic as a bonus for a company project team.

**Customer Inquiry**

* **Set Up Order Placement system**
* **Order system**

Most picnic orders are initiated by a telephone call from a potential customer. When potential customers call, the PRU staff member asks a series of questions designed to help them decide if the picnic is right for them. Note that all PRU staff members, whatever their other duties, are trained to interact with potential customers. Generally, first-time customers want to know what picnic arrangements are available. Even returning customers want to be reminded about picnic options and to be informed if any new menus or individual items have been added to the product line.

**Decision from Customer**

* **Customer Contact Information Database**

If the telephone customer decides to book a picnic, the PRU staff member records general customer information (e.g., name, address, and phone number). Then the staff member requests information about the picnic (e.g., place, date, time, and number of participants). The staff member must check the master calendar to see if the time and location are available. She or he must also make certain that there are enough employees with open assignments who can staff this picnic. If there are no conflicts, then the staff person tentatively schedules the picnic and asks about the particular order (e.g., menus, additional menu dishes, special food items, and non-food purchases). If there are no special requests, then the staff member calculates an estimated price (adding 10% for contingency as well as tax), calculates 20% of the total price as a base deposit (adding in any additional rental deposit), and communicates this information to the customer. If the customer agrees, the picnic is provisionally scheduled, which means that it is added to the master calendar and the selected staff members are tentatively assigned to it.

At this point, the staff person checks on the preferred manner of payment. If the customer prefers to pay by credit card, the staff member takes and verifies all payment information. The picnic is then changed from provisionally scheduled to “booked,” and PRU assumes that a commitment has been made to provide the picnic under the conditions agreed to. Additionally, the staff member prepares an invoice to mail to the customer showing all terms and arrangements regarding the picnic as well as the amount paid and the amount remaining for payment. PRU also accepts payments in person from clients who use cash and in person or by mail from clients who pay by check. All scheduling issues are arranged to accommodate the various payment methods. The scheduling status officially changes from provisional to booked following a verbal agreement with the customer and the receipt of the deposit, triggering changes in scheduling status.

Frequent customers, such as the seven Fortune 500 companies in the region, have accounts with PRU. Specific employees at these firms have the authority to book a picnic. In these cases, the booking itself is considered sufficient to reserve the picnic, and no deposit is required. All cost records are maintained for these picnics, and a bill is sent to the accounts payable officer at the relevant company about two weeks after the picnic takes place.

PRU orders supplies based on a weekly cycle. Generally, on Monday mornings, the owner assesses the picnics scheduled for that weekend. Because of her expertise, she can translate the menus and other items into a set of ingredients that need to be ordered. She also “just knows” what is on hand as leftovers from the prior week, although she realizes that some leftovers must be discarded or donated to charity because they won’t last until the next weekend. A more formal approach would require her to list for each picnic the ordered food items and their quantities. She would then decompose the menus into individual dishes, sorting by dish and calculating the necessary quantity of each one. Some dishes, such as potato salad and coleslaw), are purchased ready-made. Others, such as beef stroganoff and chicken tacos, are cooked from raw ingredients. Dishes made from raw ingredients need to be decomposed into their ingredients, with quantities and number of servings recorded for each recipe and number of servings to make entering into the total required calculation. All ingredients and prepared dishes are then added to a master list and checked against those currently in stock. For example, a variety of dishes might require 3 quarts of tomato sauce, but because the firm buys tomato sauce in 5-gallon canisters, it may have sufficient supplies on hand for all of the weekend’s picnic needs.

**Inventory**

* **Inventory Management Problem**
* **Need Management Report**

Subtracting the items currently in stock from the master list of ingredients identifies those ingredients that PRU needs to purchase. Using hard-copy and online catalogs, the firm sorts the ingredients by the vendor. It then prepares a purchase order for each vendor listing all of the needed ingredients and other standard purchase order information, including the prices, subtotals, and totals. Some purchase orders are e-mailed to vendors for delivery to PRU, and others are delivered by staff members who check ingredients for purchase (such as fresh fish or produce) and then bring them back to PRU to be cooked.

**Problems**

**- Merchant and retailer Problem**

**- Pricing Issue**

Unfortunately, despite the owner’s years of experience and expertise, the amount of “wasted” materials at PRU has been too high. Consequently, the owner is looking both to improve the purchasing process and to computerize the firm. At present all information about suppliers and their prices is stored “in her head.” Even when the ordering of supplies is efficient (meaning there are few or no leftovers), not all suppliers are equally reliable, and prices for many items tend to change quickly. For these reasons, the owner has been unable to optimize bargain hunting among suppliers. Another difficulty is that suppliers vary greatly in their use of computers. Some suppliers—generally the larger grocery chains and distributors—are very sophisticated and conduct business online. Others—generally Mom and Pop producers whose quality is often superior and whose excellent products bring back customers—still operate manually. Although these small suppliers are less technologically sophisticated, they offer some of the most reliable and best bargains.

The business has grown rapidly over the past year, and the owner wants to install a new computer system for managing the sales and ordering processes. She would like to use the system for marketing as well. The system should be able to track how customers learned about PRU, and it should identify repeat customers so that PRU can formulate and mail special offers to them. The owner also wants to track those cases in which the customer agreed to terms but never provided a deposit. PRU could then periodically poll these potential customers to inquire whether the firm could have done anything differently to win their business.

**Assignment:**

**You have been selected to do Systems Analysis and Design for a NEW fully automated system for PRU's operations. Using the statements provided in the case study you are asked to develop a comprehensive set of Systems Requirements, Data specifications, and System Design documents.**

**Your documents should include the following:**

**1. A set of Business and Functional requirements statements (Text)**

**2. Use Case Diagram(s) that capture the system's interactions with external entities (Diagrams)**

**3. A set of Use Case documents describing the details of Use Case Operations (Forms)**

**4. A set of Process Model diagrams specifying the Business Processes and the data flows needed to support the processes (Diagrams)**

**5. A set of Logical Data Model specifications (Diagrams)**

**6. A set of Physical Data Model specifications (Diagrams)**

**7. A set of Program Logic specifications (Diagrams)**

**8. A set of User Interface Design specifications (Diagrams)**