

Super Fun Park (600 pts)

In this package, there are several primary documents about the operation of a place called Super Fun Park. Super Fun Park has been experiencing some business problems, but has been having trouble resolving them because it lacks a centralized information system to gather data about the performance of the park. It is your job to help build their new IT infrastructure so that the park can be more effectively managed and help them alleviate some of the ir growing pains as a successful organization.

The park has 3 main problems.

Problem 1: The park needs better analytics on the behavior and spending of its guests.

Problem 2: The park is having trouble managing the food system.

Problem 3: As the park has grown, it has begun to have trouble managing its growing staff.

You are tasked with solving at least two of the three issues.

The project will be judged on the following criteria for **each** mission you choose to complete:

I. Conceptual Design

A. Analysis of the Problem: You will have to write out a summary of the issue and your proposed solution. This will be in writing. You will have to evaluate what parts of the park are effected, what data needs to be collected that isn't present, what (physical) technology (such as apps/itbits) or method you will use to collect that data, and how that data can be used to solve the problem.

B. A set of Entity Relationship / UML / Semantic Map diagrams will be generated in order to develop a graphical representation of the situation. This model will be independent of the relational model and will focus on an entity centric analysis (meaning, at this stage, you don't have to worry about breaking the objects down into tables. You just simply need to graph out the important objects and how they are related to each other..)

II. Logical Design

A. This will be the phase where you will develop a relational model of the system. It will also be in a diagram, but the objects being modeled will be the tables, columns, and key relationships that will be used in your solution. This solution will be independent of a particular database management system and will not require code (that is saved for Part III) All of the tables must:

1. Be in **4th Normal Form**.
2. Accurately capture the information to solve the problems
3. Correctly identify all primary and foreign keys
4. Correctly identify all of the multiplicity relationships between tables (one-to-one, many-to-one, and many-to-many)

III. Physical Design

A. This part will consist of a single file that generates your database schema in Oracle 11g and populates it with data. Make sure there is enough data in your tables to pass a series of per-determined queries that will be tailored to your particular system design and used to test that your system meets certain criteria. Also, make absolutely sure your script successfully executes or your project will be graded harshly if there is no time to return it for corrections.