

TO: InfoSysB Consulting, Valued Customer System Team  
From: Jennifer Turns  
Re: System Development, Requirements for Data Design Phase  
Date: 25 October 2000

Team Members -

Thanks for the planning and analysis document that you submitted. I have read your document and think that we are on the right track. In this memo, I will give the specifications for the next phase of our project.

**Working Functional Specifications (and User Analysis):** I have read your preliminary analysis work and synthesized that work into the following set of working functional specifications<sup>1</sup>. Ultimately, the valued customer system needs to support the following functions...

#### Registration Functions

- Register new customers (i.e., Give them an account)
- Verify/validate registration (e.g., no duplicates, valid address?)

#### Accumulate Credits

- Customer identification during purchase (e.g., swipe card, phone #)
- Submit purchases to be recorded on account (e.g., scanning, automatic)
- Verify purchases?
- Ensure customers participate (e.g., cashier suggests, automatic notice)

#### Handle Rewards

- Determine eligibility of customer for award
- Make awards available (e.g., customers request and it is sent, automatically process accounts which have accumulated reward and send it)
- Record awards used (i.e., update account)
- Determine distance to awards
- Explore what awards are available for specific account

#### Investigate/Modify System Parameters

- Explore what awards exist, what can be achieved for what account level
- Update awards parameters (i.e., what account level for what reward)

#### Explore Customer Behavior

- Explore purchases to date (i.e., by person, by category of user, etc.)
- Explore what has not been purchased
- Explore where clientele for store are coming from
- Explore customer types
- Explore change in sales since awards in place

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<sup>1</sup> Deferred Implementation Details. Please note that these functional specifications say little about HOW they will be implemented (either in terms of the specific hardware that will be used OR the person who will be responsible). While this may seem to make the specifications vague, this step also provides design freedom. It is still possible to explore multiple ways to get the project implemented.

**Users:** The users of our valued customer system include (but are not limited to) customers, sales associates (cashiers, etc.), and business managers. Please note that some of these functions are clearly associated with a particular user. However, for some functions, it is not clear yet who will be responsible for the function (if anyone). For example, we could focus on ensuring participation by asking the cashier/sales associate to remind customers to participate. We could also have an electronic display with this message.

**Your Next Tasks:**

1. Create an Entity Relationship diagram for our project
2. Convert the E-R diagram into specifications for a relational database schema using the graphical notation from the McFadden et al. reference.
3. Create the specified relational database in Access and populate the database with some preliminary data.

**The Report:**

I need a report on these activities by Wednesday, November 8<sup>th</sup> in order to have a critical meeting with our client. Here is what I would like you to include in the report:

1. The E-R model and model description. I would like to show the E-R model directly to the client. Thus, I need the model as well as a description of the model. I suggest that the description include a set of bullet items (as McFadden et. al. used on page 118). In your description, please include any assumptions you needed to make.
2. The Relational Database Schema. Please submit the final relational database schema along with a description of the process you used to convert the E-R diagram to the final database. (While the client may not be interested in this, it will make useful backup materials.)
3. Final Access Database and Details. I would also like to show the database directly to our client. Please submit **the Access database** along with the following information: (a) a printout of the final definition of each table, (b) a printout of sample data in each table, and (c) a printout of the relationships screen showing all of the tables and how they are related.

Note: You can submit the Access database by sending it, via email, to Lixin Chen ([lxchen@u.washington.edu](mailto:lxchen@u.washington.edu)). You can also submit the report itself via email.