Hello stakeholders,   
  
Below is a list of questions and suggestions based on my investigation of the .json files.

**Questions about the data**:

rewardsReceiptItemList in the receipts entity lists a name for the item purchased, but this doesn’t always match the name listed in the brands entity. Is there a way to reference items purchased by their \_id instead of by name?   
  
**How did you discover data quality issues**:

I searched keywords in the separate json files to look for ways to connect primary keys with foreign keys. I also read through the separate lines of the json files to see what kind of data types were being stored. (With more time I would read the json files into a SQL database and look at the data from the database.)

**To resolve issues**:

Is it possible to rearrange the data field and entities to the proposed entity relationship diagram? Looking at the receipts and users entity, all columns dealing with dates do not contain dates but instead have random numbers. Was this an error when retrieving data? We may need to look at the code for how we are receiving our numbers.

The \_id in the users entity contains duplicates. These will need to be removed if the \_id is to be used as a primary key as proposed in my entity relationship diagram.   
  
There are fields under the rewardsReceiptItemList in the receipts entity that are not consistent. Some fields are listed for some receipts and on others not at all. Fields will need to be chosen for consistency and if they are not in a given receipt they can still be listed but will appear as NULL.

**Other information**:

How focused will we be on points from receipts in the future? We may want to separate points tracking into its own entity, separate from the receipts entity.

**Suggestions**:   
  
Use the \_id in the brand entity to identify items purchased in the rewardsReceiptItemList. This will make it easier to connect items to the brand entity.   
  
Make the rewardsReceiptItemList into a dependent entity to the Receipts entity.   
  
Remove the Consumer field from the Users entity as it is redundant.   
  
  
If you have any questions or would like to talk further about some of the suggestions, I would be happy to set up another meeting.   
  
Cheers,   
  
Shane Sweeney