Ishan Mistry : 18BIT033

**Week 1**

**What are the tasks for the project that I accomplished during the week?**

* Finish up my contribution to the "File vs DBMS" assignment.
* Work out and fill up the "Stage 1" proposal form for others to make changes and amends to.
* Organize the folder for our group on Teams.
* Combined weekly report of the team
* Worked on the vague idea of tackling more security and damage threats by having camera around for verification
* Thought of an unique idea of having a bar code or something similar that is different when looked from top to bottom and vice-versa so that verification of the input(addition to the shopping list) can be made more reliant
* Come up with ways of reducing the number of sensors required so that we don’t have to keep a tag for each and every item by having a tag only in front of the each row of products and the information regarding the pick being stored in the tag of the user and not the item.

**How did I do this week compared to last week?**

This is the very first week of journaling the whole process and making a journal already feels a bit more organized even when we worked a lot before this week's work

**What’s the one thing thought this week to do in order to improve the project?**

The very idea of allowing people to bring their own glass bottles for the typical groceries like wheat or oil where they first weigh in the empty bottle (value of weight stored in the tag) and then when selected item say wheat

**What’s the biggest challenge faced by you during this week's scope of work?**

The diagram to represent the project and the views were just tedious as the project is mostly app - sensor fusion combination and not a prototype

**What was the idea or experiment that you tested yourself on throughout the week?**

The idea of doing a bit of redundant work by doing the assigned tasks individually by the members and then compiling the things together.

**Was the experiment successful or simply what were the inferences?**

Yes, I'd consider it particularly successful as this helps in getting inputs from all the team members quite efficiently.

Also it is a good way of getting work done because we tend to work on the same thing say ,File vs DBMS, so when one member write something other can't have the same thing again hence they have of think of something different. so the more you delay, the more work you have to do and hence finishing the work before deadlines.

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**Week 2**

**What are the tasks for the project that I accomplished during the week?**

* Redo my section of the “File vs DBMS” part by adding examples in each point that was proposed by me in the document.
* Skimmed through a lot of articles as to get an understanding in RFID domain.

<http://www.cse.ust.hk/~wilfred/paper/er11.pdf>

<https://www.intechopen.com/books/radio-frequency-identification-from-system-to-applications/choosing-the-right-rfid-based-architectural-pattern>

<https://www.ripublication.com/ijaer17/ijaerv12n24_45.pdf>

<https://www.intechopen.com/books/radio-frequency-identification-from-system-to-applications/design-and-implementation-of-rfid-based-object-locators>

* Prepared the tables for the sensors and tags and marked the keys that can be used as primary keys (candidate keys) in my section of tables

**How did I do this week compared to last week?**

This week was a lot more work as I read a lot of articles and research papers to know as to what actually a typical RFID system has and all the various data-streams that can be communicated using the RFID tags

**What’s the one thing thought this week to do in order to improve the project?**

I proposed an idea wherein instead of doing many tests for the same tag (having the tag to work for 4 to 5 times) and then predicting if its truly accurate every time, we might as well incorporate a basic button(item stands on the button) kind of a system to verify tags.

**What’s the biggest challenge faced by you during this week's scope of work?**

Linking the various tables and attributes has been a great post work to do once were don’t with the tables. The post work also involved a lot of different names in the tables for all three as we had used different names for the same attributes (e.g. ITEM\_TYPE, ITEM\_CATEGORY, ITEM were referring essentially to the same thing)

**What was the idea or experiment that you tested yourself on throughout the week?**

We thought of being resourceful and make the best of the “Teams” Platform and use this as a major form of communication and conduct meetings and also use the mind maps to create a relational model.

**Was the experiment successful or simply what were the inferences?**

Yes, it is now more centralized and meetings could be scheduled very efficiently and also the very note-taking feature makes it a perfect platform to escape of recording or doing redundant work.

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**Week 3**

**What are the tasks for the project that I accomplished during the week?**

Our primary focus for the week was the completion of Relational Model and also making changes after resolving the doubts that I asked sir in the class itself

**How did I do this week compared to last week?**

In terms of creating something new from scratch (which was not the aim for this week) we kind of lagged behind the fellow mates as they had already started working with their ER Model, but overall it was productive as Relational Model is going to be the foundation of all the work we do from now onwards.

**What’s the one thing thought this week to do in order to improve the project?**

We started thinking about how the application interface could be mould in, not asked by sir currently but the features or attributes are highly influenced by the functionalities that we propose and hence we thought of having a reminder in the back of our minds for this in the future tasks.

**What’s the biggest challenge faced by you during this week's scope of work?**

The more we discussed about the relational model the more changes were to be made in order to improve the model, so communicating those changes was definitely a great hurdle for this week’s work

**What was the idea or experiment that you tested yourself on throughout the week?**

I initially thought that individual work could be compiled together and all the work would be done, but the relational model requires a lot of iterations. Hence, we thought of meeting on Teams, wherein I shared my screen with the editor/site on which we made the whole diagram and all the changes were there and then communicated by the fellow team members.

**Was the experiment successful or simply what were the inferences?**

I’d consider it to be pretty successful in terms of visible work because the number of tables were increased as a result which will eventually helped us loosen up the constraints on the data entries to be made.

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**Week 4**

**What are the tasks for the project that I accomplished during the week?**

Previous week we were almost through with the relational diagram so the assigned task for this week was to obtain an Entity Relationship Model based on the relational model prepared earlier

**How did I do this week compared to last week?**

It was fairly simpler as we had to just identify the various relations for the same but as we are falling a bit behind on what sir is currently teaching,

**What’s the one thing thought this week to do in order to improve the project?**

We thought of selecting (in fact did select) a “smart” platform for doing the SQL queries for the future because personally I had DBMS in 11th grade for computer science subject and there I had to use the command line to make all the entries and queries and making changes in that was a lot of pain as I had to redo the whole thing in case of any discrepancies.

**What’s the biggest challenge faced by you during this week's scope of work?**

We have lately been falling behind with regards to what is currently being taught in the class hence there is a bit of an asynchronous work on our end. Due to this very reason we had to go through the concepts of forming an ER diagram all over again.

**What was the idea or experiment that you tested yourself on throughout the week?**

We did discover an excellent feature of the platform that we will be using for all the queries i.e. MySQL wherein just preparing the relational model in the platform could be then used to automatically generate an ER model. But then we decided not to use this and do manual work from scratch instead.

**Was the experiment successful or simply what were the inferences?**

No, not really as we didn’t quite understand that automatically generated ER model and hence, we did what was supposed to be done – building it from scratch

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**Week 5**

**What are the tasks for the project that I accomplished during the week?**

Selection of the platform from the given available platforms and then using this platform to execute the CREATE TABLE syntax commands for out relational model. These are the major tasks to complete for this week’s scope of work.

**How did I do this week compared to last week?**

Personally, I did not do my best this week because of all the technical struggle that I faced in getting myself acquainted to the MySQL platform.

**What’s the one thing thought this week to do in order to improve the project?**

We tried really hard to get our tables done in the database i.e. MySQL this week itself, but I had to make some changes and in the nick of time I had to improvise and hence we did a Google Doc thing wherein we all work simultaneously and made up for the time lost in resolving the MySQL problem(which is not yet resolved for me )

**What’s the biggest challenge faced by you during this week's scope of work?**

It was not something that the whole team faced but it was just me, a friend of mine had used my laptop to perform his queries in the same MySQL, back in sem3 for his own team so he had set his password for the root and now he doesn’t remember and somehow it was a great deal of trouble resetting the password.

**What was the idea or experiment that you tested yourself on throughout the week?**

We thought of utilizing this platform to the fullest and we discovered and went through all the features that this platform has to offer and honestly speaking, we were quite intrigued.

**Was the experiment successful or simply what were the inferences?**

It was a clear success as we exploited the very saying which sir told us – “Don’t work hard. Work smart”. And this way we hope that we’d be making the best utilization of this new platform and maximise our efficiency.

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**Week 6**

**What are the tasks for the project that I accomplished during the week?**

As we had recently been taught normalization and identifying all the functional dependencies in the data, we were trying to execute all the tests (1NF,2NF,3NF, BCNF) in order to have insights into the dependencies will look like at the time of data entries.

**How did I do this week compared to last week?**

This week was a one of those swift ones where I didn’t have to do much rigorous work with MySQL or the data. It was easier for me personally as I was doing it nearly parallel to when sir was teaching in the class.

**What’s the one thing thought this week to do in order to improve the project?**

Upon having looked into the dependencies, I made a few changes , for example in the relational model, that might not have caught my attention at the time when the model was actually prepared, so this lead to me changing attributes and making new and better keys in relational model as well as in the MySQL database.

**What’s the biggest challenge faced by you during this week's scope of work?**

Getting the work done by others has been difficult lately and also takes up a lot my time just to explain the team members as to what has to be done and where to look for to understand stuff.

**What was the idea or experiment that you tested yourself on throughout the week?**

We actually changed our unique features a bit and thought of building a system that can actually make orders to sellers and decisions like that could be taken in a fair manner. The idea for now is to use the triggers to have valuable information generated as soon as the data is generated.

**Was the experiment successful or simply what were the inferences?**

No, not really because triggers seem to have very limited functionality so I thought of moving to maybe using something that could work with more tables at a single time like stored procedures

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**Week 7**

**What are the tasks for the project that I accomplished during the week?**

Making the data entries was the main task that we were supposed to carry out for the week because if we delay this all the planned work for lab manual completion would be delayed as well – “Queries”

**How did I do this week compared to last week?**

This week the need of “smart work” to be done was finally there, as I didn’t want to do any manual work to do the entries. So I had to do some searching for the ways for data generation for making the work of my team easier

**What’s the one thing thought this week to do in order to improve the project?**

I started preparing my query statements from tis week itself because next week I will probably upload all my lab manuals in the folder as we had been lagging a lot behind when it comes to the lab manual submissions.

**What was the idea or experiment that you tested yourself on throughout the week?**

Instead of going for custom programs or those fuzzy MySQL features I used online data-generation tools that support regular expressions, so I used the combined my knowledge of both and easily made my section of data entries

**What’s the biggest challenge faced by you during this week's scope of work?**

So, the online generators give you an csv file that contains all the data that has been generated, so the plan was simple, we were going to exploit the feature of MySQL where you can import data directly from csv to update the database file.

**Was the experiment successful or simply what were the inferences?**

We “had to” make the experiment successful as there was no other way as we had already generated the data and we were not redoing the stuff again. Just the problem was that even in csv there were many files from my teammates that were having different encoding formats that were causing troubles in the import.

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**Week 8**

**What are the tasks for the project that I accomplished during the week?**

Queries were made for dry run and also implemented in the MySQL platform.

**How did I do this week compared to last week?**

Honestly this week was a breeze maybe because I already had jotted down ideas for all the queries and hence making it just a mere task of implementation.

**What’s the one thing thought this week to do in order to improve the project?**

Essentially forming queries that could be used as a part of the future research paper and hence each one of my queries should be having a solution that is practically useful and gives some good insights about the data.

**What’s the biggest challenge faced by you during this week's scope of work?**

There were some challenges (technical ones never go away) but mostly it was having to work around the syntaxes say for example queries related to the “FULL OUTER JOIN” cannot be tested in MySQL as it weirdly doesn’t support that, hence one has to perform it explicitly like having use “LEFT JOIN” followed by a “RIGHT JOIN”.

**What was the idea or experiment that you tested yourself on throughout the week?**

It was not exactly an experiment but I felt like most of my time (70%) goes into planning my work and then making structured documents for the team members so that they don’t have to think of formatting but rather simply work on the main content without wasting any time. So when I already had my queries statements structured in the previous weeks, it really helped me finish my work this week easier.

**Was the experiment successful or simply what were the inferences?**

A big “YES” because now on I feel I am going to be doing a lot pre-planning before any sort of work. And this is something that I can probably use in pretty much all the aspects of my life.