# DECI RAISA LIM

Hello, I'm Deci!

I am experienced in data exploration and analysis, applied statistics, user experience design, research and technical writing. I am enthusiastic about developing applications and ecosystems that tell relevant stories and that are intuitive and efficient.

My objective is to apply my data analysis and user experience design skills in creating meaningful analysis, insights, and visualizations to aid and educate users in making the best decisions for their projects.

Over the last few years, my roles – both full-time and internships have varied, but I have learned that no matter what field, application, or type of solution, the key to a successful product is research and collaboration with the users. We should create technology to adapt to the user's needs and not the other way around!
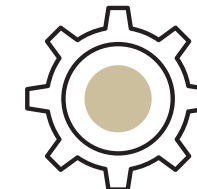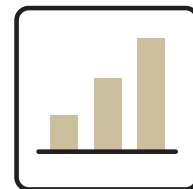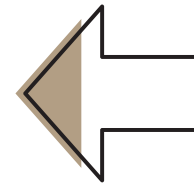
Software:

Python, R, JavaScript, SQL, SSRS, CSS, Microsoft Power BI

Skills:

Data analysis, Data visualization, Applied Statistics, Human Computer Interaction, User Experience Design and Engineering, Wireframing and Prototyping, Project Management, Reasearch, Technical Writing, Semiconductor manufacturing environment knowledge
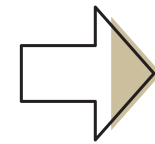
MY PROCESS

This is my version of the design thinking process. I'd like to coin it as the "data-driven, user-centered, design process" a.k.a. DUcDD

Understand the User

- What are their goals?
- What are the features they require?
- Which of the features are the most important a.k.a. which ones do they "need"?
- Which of the features are "nice-to-haves"?
- What are their pain points?

Research

- Don't reinvent the wheel!
- Make use of what's available: perhaps the users have some existing data or assets they would like to make use of.
- What have they done in the past that did not work?
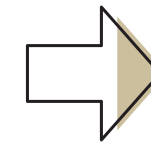
Build and Collaborate

- If possible, work with the user continuously.
- Involve them in the project and ask for their feedback.
- Ask for their "why/s"!
  - Why do they want a certain feature?
  - Why would they need to have "this" or "that"?
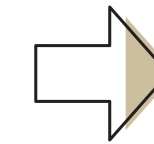
You are not your user!

- Don't assume what the users want or need.
- Don't project what you think the product should be.
- Base decisions on the user's requirements and sound research.
- Collaborate and ask for feedback!

Data-driven:
Design efficiently and effectively by utilizing information about which patterns have worked for the users in the past and which ones may need improvement. As much as possible, make use of what exists but tweak and personalize it to the user's needs.

User-centered:
Create technology for the users and adapt it to their needs and not the other way around!

PROJECT : ASOM Configurations Dashboard

I created a dashboard for the Manufacturing Engineering (ME) group to view the connections of tools and groups of tools data being run through ASOM - an internal system that monitors the activity of tools and machines in the fab and the routes for which the wafers go through.

PROBLEM:

ASOM is a complex system that have various different tables that are linked to one another, however, over the years, people who have built this system have come and gone but had passed down the knowledge in less formal ways a.k.a. tribal knowledge.

MY CONTRIBUTION:

I worked with one of the senior engineers in the ME group to learn the basics of ASOM and its complex network of tables. My role was to create a dashboard that encapsulated the more important and frequently used ASOM tables and the other tables with which they were linked to so that production and module teams can easily view the data from these tables and be able to click on a data point and be shown in which tables the data was present in.

PAIN POINTS:

Many of the engineers within the production and module teams do not like sifting through old documentation as those can be outdated and some even difficult to understand. However, learning to navigate a brand new system was also a concern as it was "another dashboard" to look at and/or maintain.

RESULTS:

- *Daily saved time of at least 1 hour in viewing ASOM data.*
- *Intuitive and user-friendly dashboard for viewing complex data relationships between multiple ASOM tables.*

Understanding the Current Situation and the ME's goal

I worked with a senior ME in the group that taught me how to navigate through ASOM and shared his vision about what he wanted it to look like.

- Be able to see the subloops and any other table that it was present in.
- Be able to filter using the subloop, tool keys, process, and staging operations.
- Get an overview of the connections between the subloop and other vital information.
- Be able to navigate from one table to another with ease.

1. After discussing and obtaining requirements from the ME, I looked into the different resources currently available
   - Wiki page - gave information about what the data types, tables, and properties were
   - Several OneNote documents (some or most outdated)
2. I scoured through these sources and made a summarized table of the additional information that needed to be present in the dashboard according to the ME's requirements.

SUBLOOPS	TOOLKEYS	LOOP	STAGING_OPER
Loop_limits9	Tool_loop_mapping3	Loop_control	Product_Linedown2
Loop_def8	CEID_Loop_mapping2		Loop_Control
Always_Proc_criteria5	Tool_attribute_scaling3		
Prod_route_match_proc3	Loop_limits9		
Pord_route_count_4	Loop_def8		
Force_proc_criteria2			
Tool_attribute_scaling3			
Loop_control			
Batch_config			

Active ASOM Tables

Wednesday, June 24, 2015   7:29 AM

LOOP_DEFINITION8 - Required
- This is the primary table that ties the subloops to the loops.
- Update this table last when creating new loops, as the status report keys off this table for what loops/subloops to populate.

LOOP_LIMITS9 - Required
- This is the primary configurations table. It defines the logic for checking how many tools are up and how many wafers allowed for a given subloop.

CEID_LOOP_MAPPING1/TOOL_LOOP_MAPPING3 - Required
- These tables essentially do the same thing, whether by individual tools/chambers, or by CEID's. The table defines tool attributes to check in MES to determine if the tool is considered available or not.

OPER_TO_STRING2
- ASOM can count the level of WIP at a defined set of operations to determine if a subloop is full or not. Operations can either be called out directly in LIMITS5/7's OpersToCountLots, or given a grouped alias in OPER_TO_STRING2. Once named, the alias can be then used in LIMITS5/7 to simplify the column.

ALWAYS_PROC_CRITERIA5
- Lots that have HB flags can be set to continue moving despite a subloop being full. This table is typically only used for HB1 or HB11.

PROD_ROUTE_MATCH_PROC3
- This table defines products, routes, buildings, and/or tool attributes for a lot apply so a subloop can move it through.

PROD_ROUTE_MATCH_COUNT4
- This table defines products, routes, buildings, and/or tool attributes for a lot apply so a subloop can count it for inventory.

LOOP_CONTROL - Required

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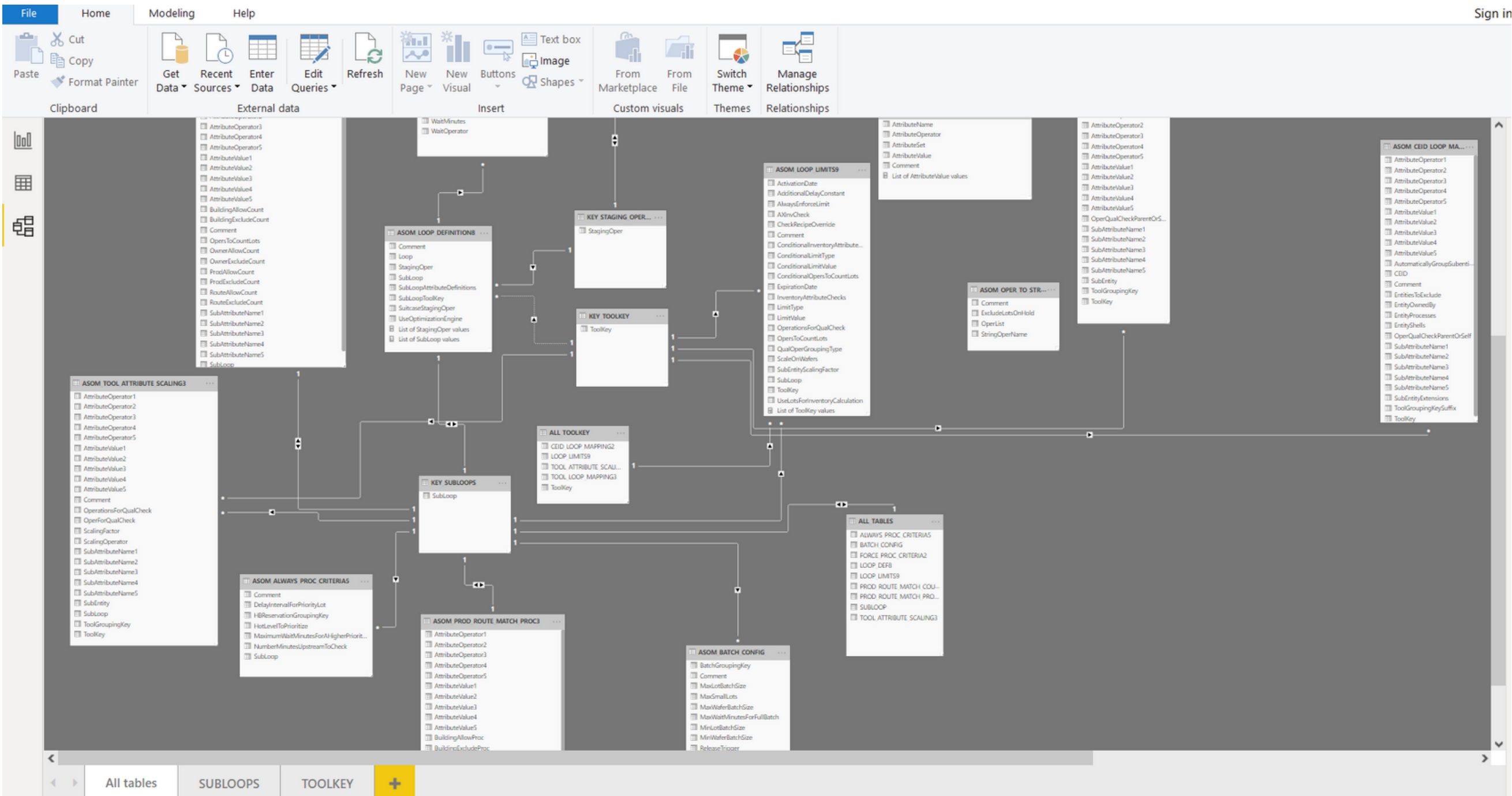
LOOP_CONTROL - Required

Pulling & Modeling the Tables in PBI

Within the Production environment, there were many ways to pull ASOM data from different sources, however, there was an existing job that pulled the data every few hours and generated separate CSV files for each table.

Instead of having to re-pull and re-create the queries for the data, we (the ME and I) decided to use the already generated CSVs as the main data source for the dashboard.

I modeled and created the relationships between the tables from the pulled data. This allowed us to create filters and connections between data points that existed in multiple tables.

Prototyping

I worked continuously with the ME to understand how they preferred or would like to view the data. At first, it was suggested that they would like to view a sort of "tree structure" to view the subloops and other associated tables.

Although this made for a clean view and some useful tooltips, this method proved to be less efficient as the user would have to click on a data in order to view any other connection. It did not give them an instant overview.

It was decided, with consideration of the limitations in the visualizations of PBI, that we would use a table instead as it gave the clearest and quickest overview of a selected data point and its relationships with other tables.
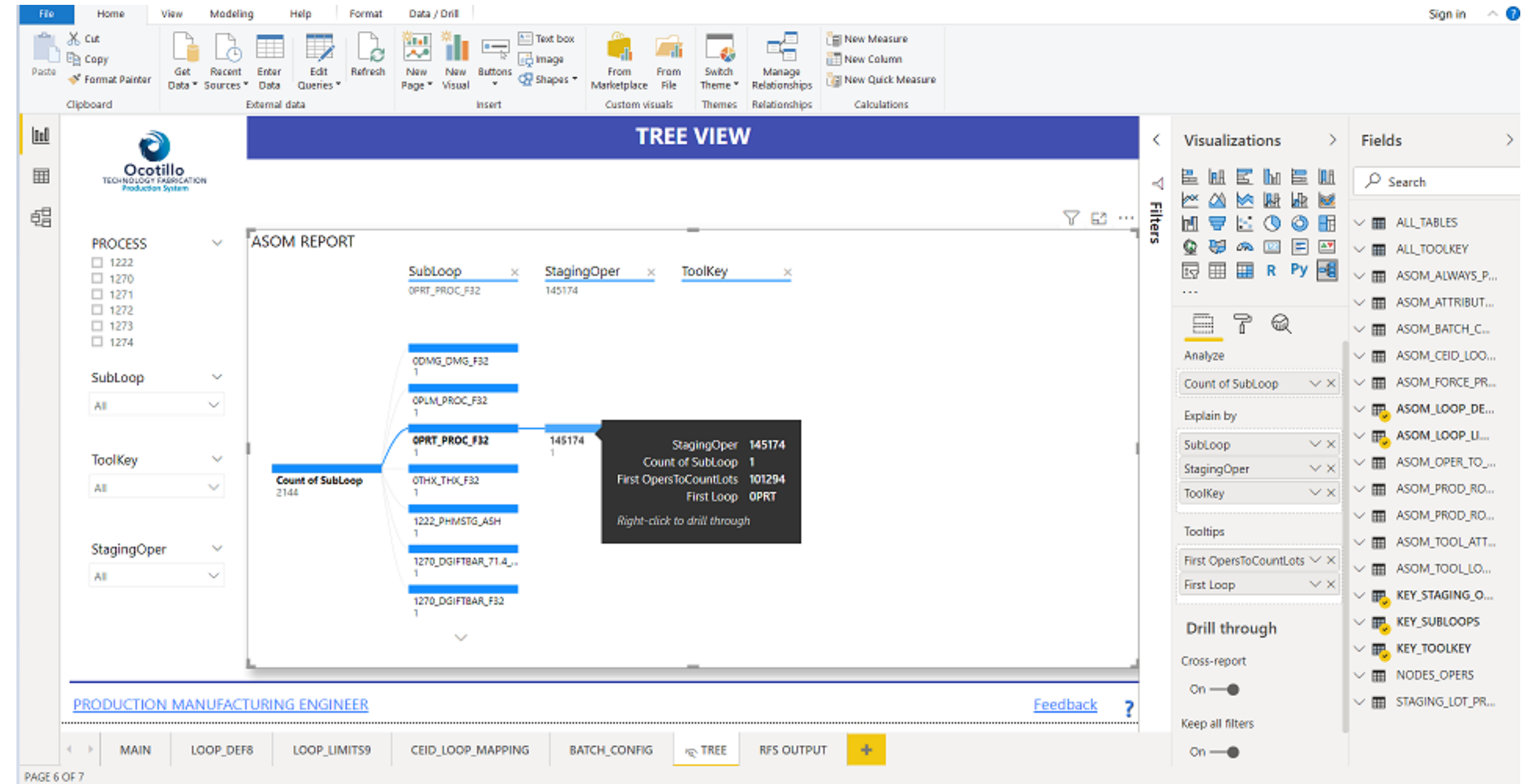
ASOM Configurations Dashboard: Project Overview

The final result is a configurations dashboard that allows the users to easily filter using four different keys: Process, Subloop, Toolkey, and StagingOper. The users are given an overview of the Subloops and Toolkeys and which tables they are in -- denoted by a 'Y' under each table column. There are also navigational buttons to the most relevant tables where the users can view more data points.

Navigational buttons to access full view of most relevant tables.

Overview of Subloop data relationships and existence in other tables.

Filters to allow for easy and quick search of specific data.

Overview of Toolkey data relationships and existence in other tables.

Opens Outlook email addressed to production ME group.

Opens Outlook email to send feedback and suggestions to ME team

ASOM CONFIGS

| LOOP_DEFINITION8 | LOOP_LIMITS9 | CEID_LOOP_MAPPING2 | BATCH_CONFIG |

PROCESS
- [ ] Select all
- [ ] 1222
- [ ] 1270
- [ ] 1271
- [ ] 1272
- [ ] 1273
- [ ] 1274

SubLoop
[All ▾]

ToolKey
[All ▾]

StagingOper
[All ▾]

SubLoop	LOOP_LIMITS9	LOOP_DEF8	BATCH_CONFIG	ALWAYS_PROC_CRITERIA5	PROD_ROUTE_MATCH_PROC3	PROD_ROUTE_MATCH_COUNT4	FOR
VFC70_F32	Y	Y	Y				
V0_DP_ETCH_MSTG_F12	Y	Y		Y			
V0_DP_ETCH_LSTG_F12	Y	Y		Y			
TW_STO_VFO	Y	Y			Y	Y	
TPT_F32_1222	Y	Y					
TPT_1222_F32	Y	Y					
TPOL_SAU759_F32	Y	Y					
TPOL_SAS714_F32	Y	Y					
TPOL_SAR710_F32	Y	Y					
TPOL_SAR709_F32	Y	Y					
TPOL_SAR707_F32	Y	Y					
TPOL_SAR705_F32	Y	Y					

ToolKey	LOOP_LIMITS9	CEID_LOOP_MAPPING2	TOOL_ATTRIBUTE_SCALING3	TOOL_LOOP_MAPPING3
XCL_HARDCAP	Y			
VIMhc_Umbrella	Y			
VIM_LOOPS	Y			
VFC_STG_HIT_DB	Y			
VCN_HIT_DB	Y			
V7_72_Rate	Y			
V7_72_HIT_DB	Y			
V6_72_Rate	Y			

PRODUCTION MANUFACTURING ENGINEER

Feedback   ?

PROJECT : Creating an App for Small Agribusinesses in the Philippines (2016)
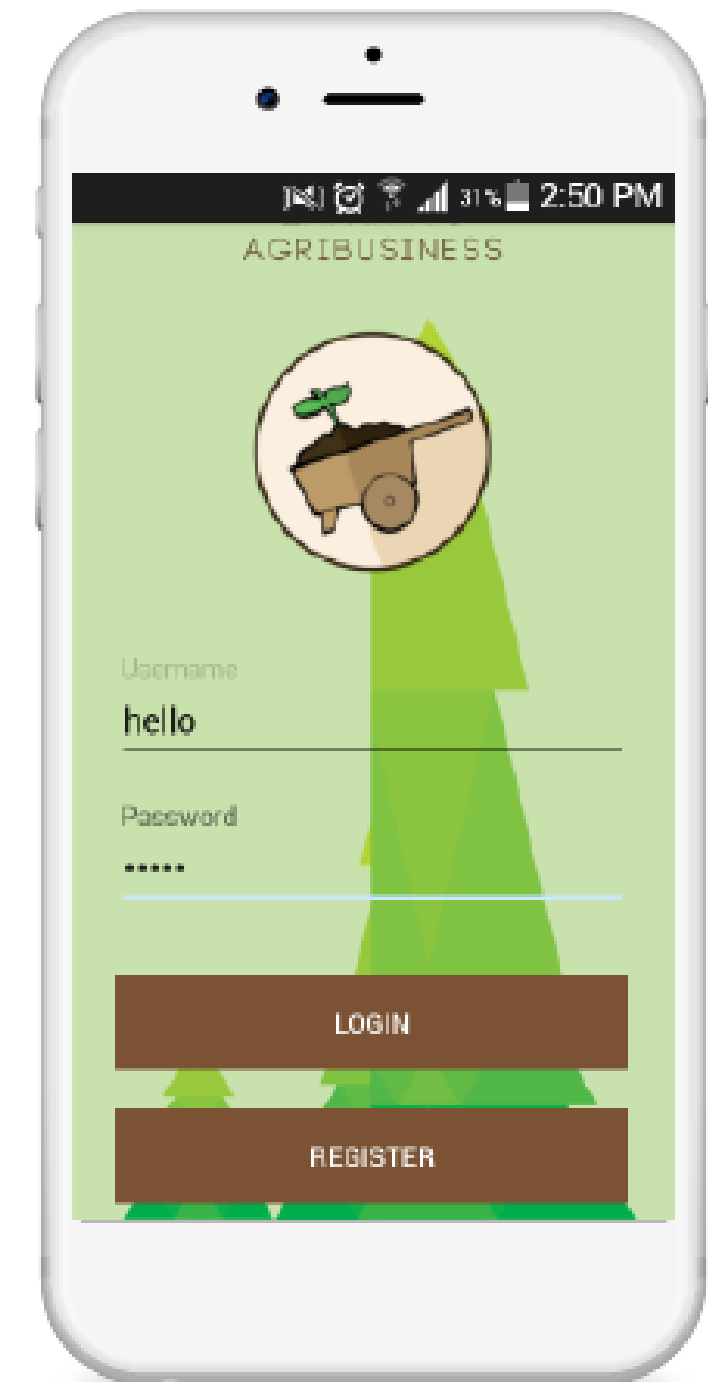
OVERVIEW:

My Agribiz was a capstone project focused on an Android application created for small agribusinesses in the Philippine public markets. This simple mobile app allows its users to do business management tasks such as pricing of products, calculating and recording of sales, monitoring of inventory and creation of e-receipts.

PROBLEM:

Most vendors in public markets in the Philippines did not have access to cash registers that would have allowed them to manage their business or at least monitor their sales, income, and inventory more efficiently and accurately.

MY CONTRIBUTIONS:

- Research and documentation
- App Development through Android Studio
- User interface design & interaction

My Agribiz: Project Overview

Research

Our team worked with a small-scale agribusiness owner in one of the public markets in Manila, Philippines.

I conducted the interview to determine how he currently managed his business and how a mobile app could help him do it better.
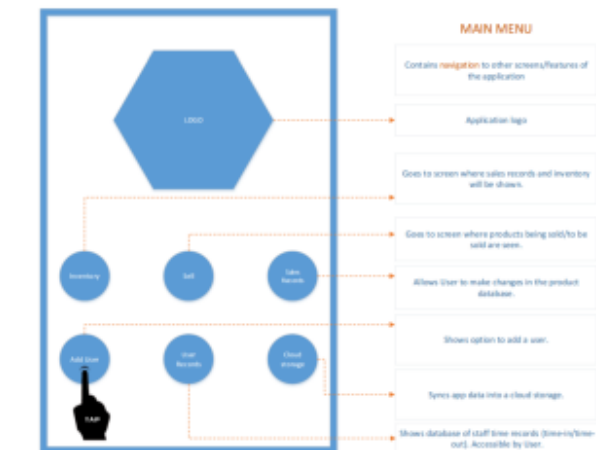
A few of the requirements were:

- Input and count inventory and stock.
- Calculate cost of a customer's purchase.
- Save a record of each sale.

NOTE: This project was done in 2016 when mobile apps for stores were just emerging in the Philippines! There are more robust and well-designed apps out there now.
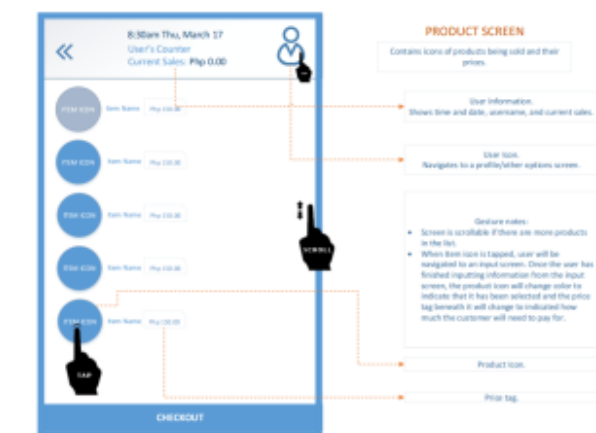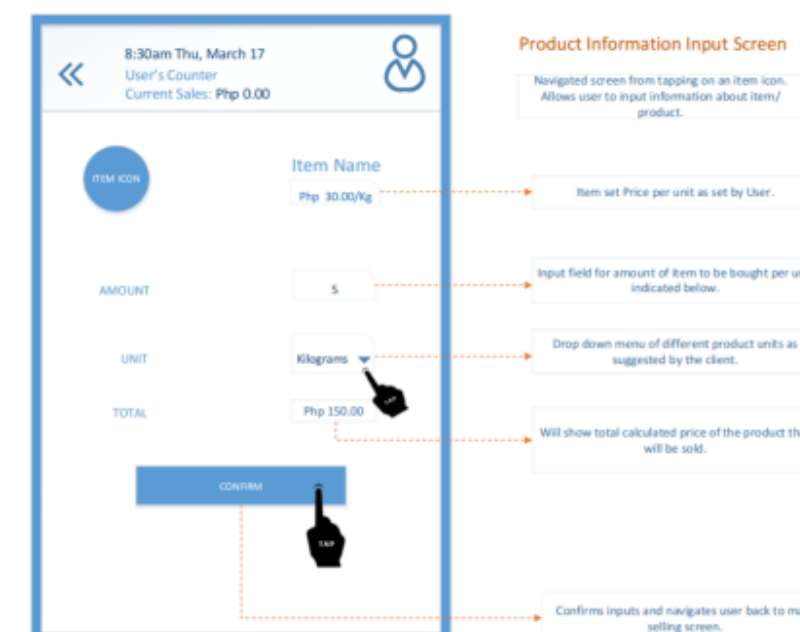

Wireframe 1 Login Screen
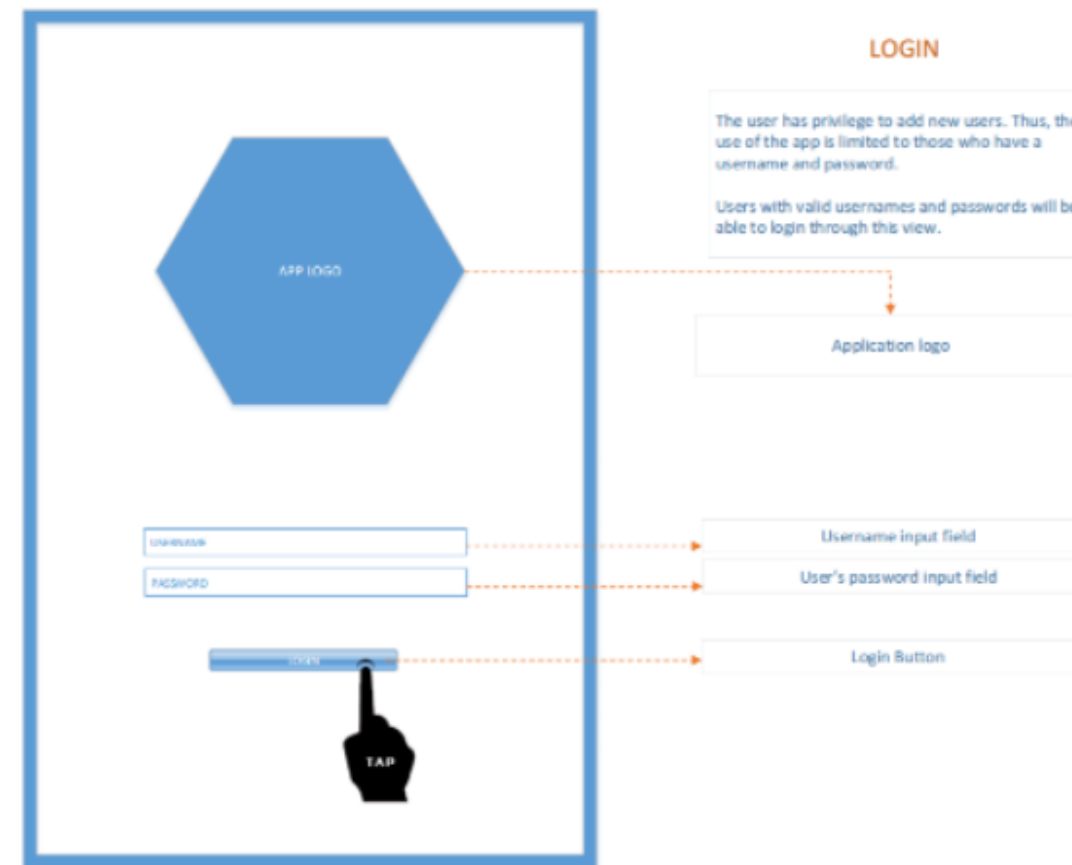
Wireframe 2 – Main Menu Screen

Wireframe 3 – Sell Screen
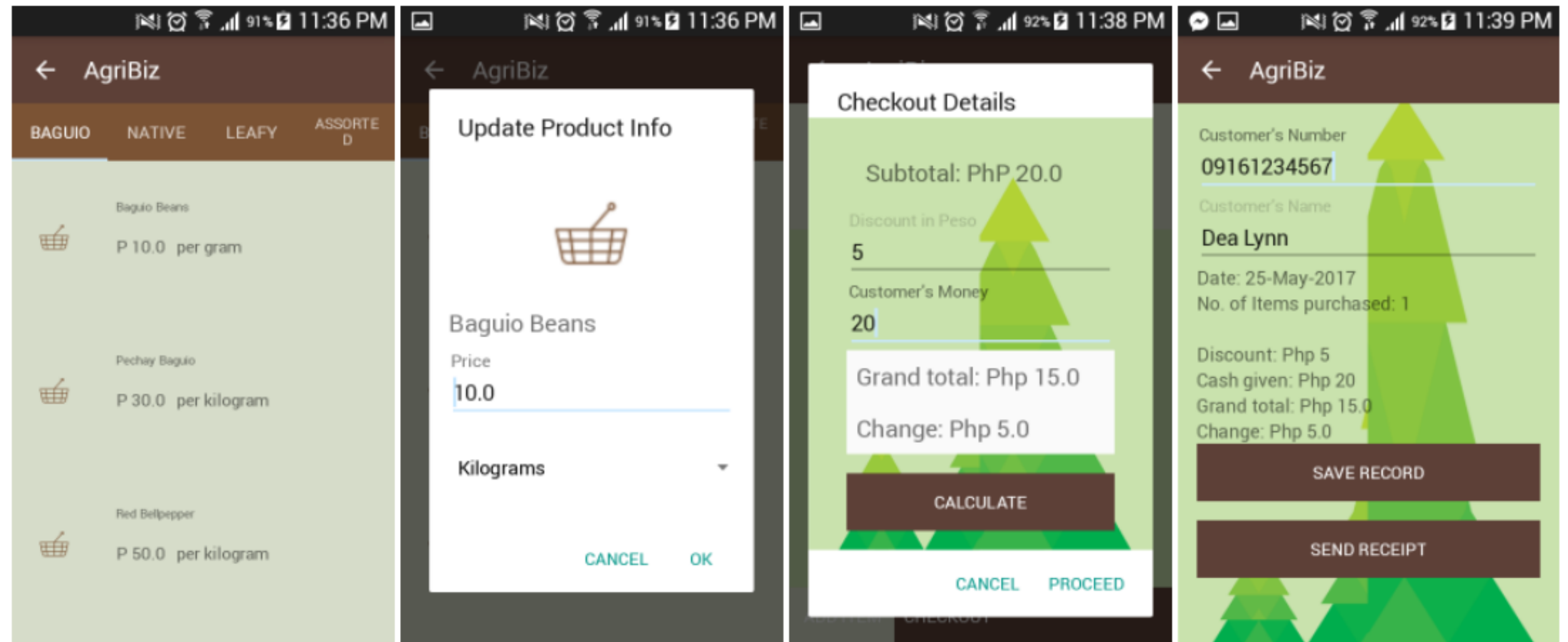

Wireframe 4 – Input Screen

Wireframe 5 – Records Screen

Constraints & Deliverables

We were given roughly 2 months for research and learning and 1 month for development.

- We had conducted a small survey among 10-20 other small agribusiness owners to evaluate whether the project was feasible in terms of the target audience using Android phones.
- I researched on current and available technologies for small agribusinesses and how these are being utilized.
- We presented our idea to a client who owned a vegetable stand in the heart of Cubao Farmer's Market in the Philippines.

Alpha Interface

These were the main interfaces on the app.
I designed each one based on the prototypes and wireframes we created. Back then, material design specifications were the norm, so I tried to emulate those in the app's design.

Overall, we achieved and developed the Minimum Viable Product (MVP) we were aiming for -- with one extra feature, which allowed the user to: input and manage stock and inventory, calculate a sale and save the record, and send a text receipt to the customer (Squares and other apps weren't as sophisticated 7 years ago!).

We presented a working app to a group of panelists within one month of development.

OTHER PROJECTS

Click on underlined titles to view the paper!

REV Request Web Application

I am currently re-creating a request system utilized by the manufacturing production and module teams. The objective of this is to make the requesting process less confusing for external customers (PEs, Modules, etc.) and more automated for the ME team. The current request system is in a SharePoint Site and we are moving it to a stand-alone web app that we are internally developing. I am working with an ME for this project. I have created the forms, the customer interface, and am currently creating automated scripts for processing the requests.

A Comparison of Python NLP Libraries for Assessing Student Short, Free-text Responses

I am currently doing research on the differences of Python NLP libraries and the effects of short form, free-text explanations and their potential benefits to students learning abstract subjects such as data structures and algorithms. The goal of this research is to use two different Python NLP Libraries to compare their explanations to that of professors and popular learning sources and see how close their responses are and what that indicates regarding their learning.

Google Keep Note: A Simple Interface Redesign

This was a project for my master's degree HCI class where I presented a redesign of the Google Keep Note app. I surveyed users and presented prototypes of a suggested redesigned interface for said app.

My AgriBiz (Mobile App)

This was a group capstone project for my undergraduate degree.
I designed the prototypes, developed the interface, and did the research for this project.

Procator (Mobile App)

This project was developed for a GIS company in the Philippines.
I created the prototypes and the user guide and documentation.

DECI RAISA HERMOSILLA-LIM

Thank you for taking time to view my portfolio!

I would appreciate your suggestions and feedback. You may reach me at:

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