

# Agile Software Development Final Project

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PREETHAM

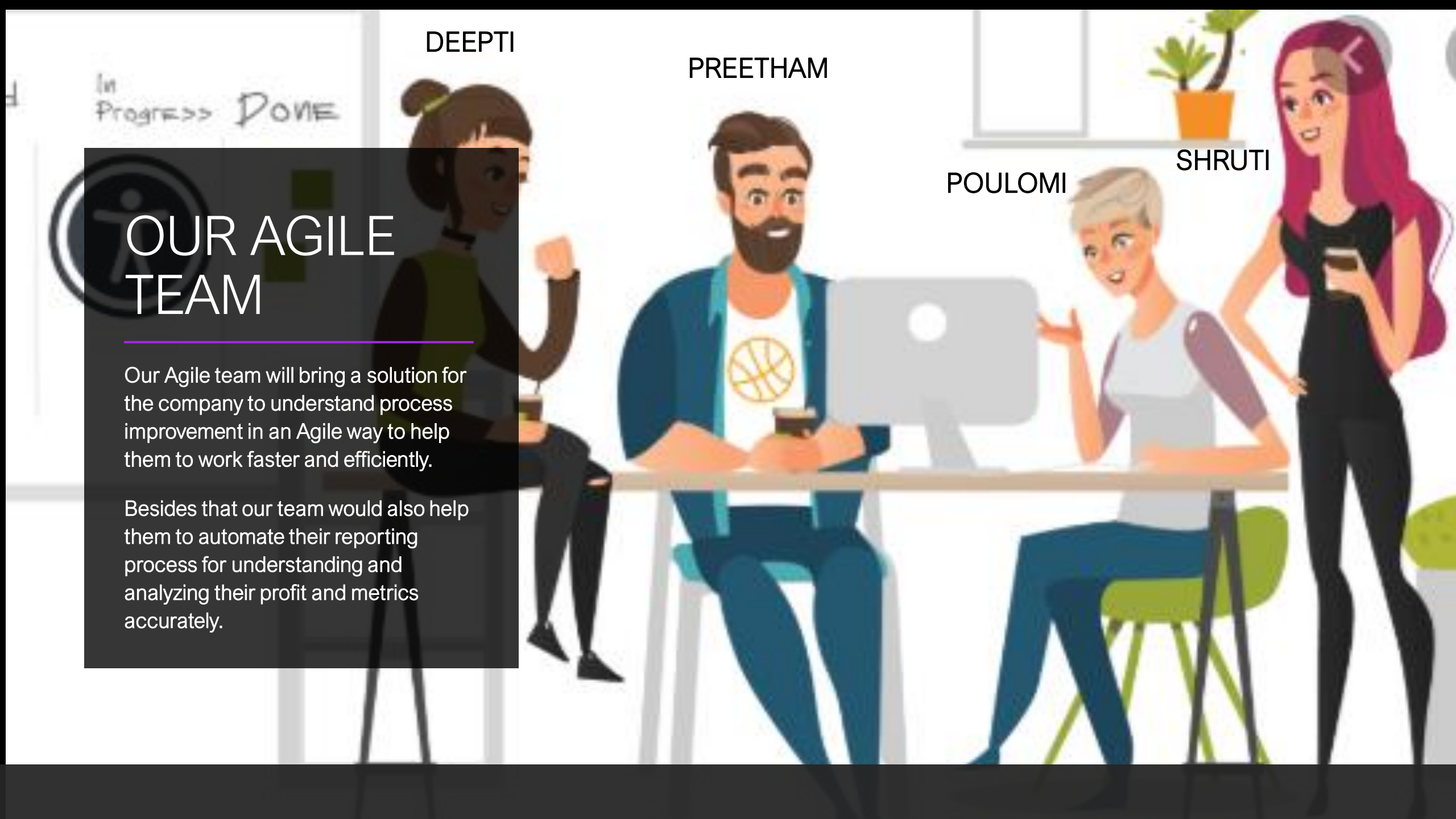
POULOMI

SHRUTI

# OUR AGILE TEAM

Our Agile team will bring a solution for the company to understand process improvement in an Agile way to help them to work faster and efficiently.

Besides that our team would also help them to automate their reporting process for understanding and analyzing their profit and metrics accurately.



# INTRODUCTION

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If there was ever an industry that seemed a stretch for an Agile transformation, it might be real estate, organized as it is according to rules and practices that don't seem to have changed much in decades.

Real estate is a legacy industry that changes at glacial speed, and glaciers are melting faster today. As these industries have longer product development cycles it gets difficult for them to transform to Agile way.

But now while agile real estate is admittedly in its early days, there's a strong movement underway in corporate real estate, fed by commercial real estate giants that see a strong need for firms to rethink the way they do business.





# ROLES

## Product Owner

Communicate vision, business goals, set priorities, controls work flow

## Scrum Master

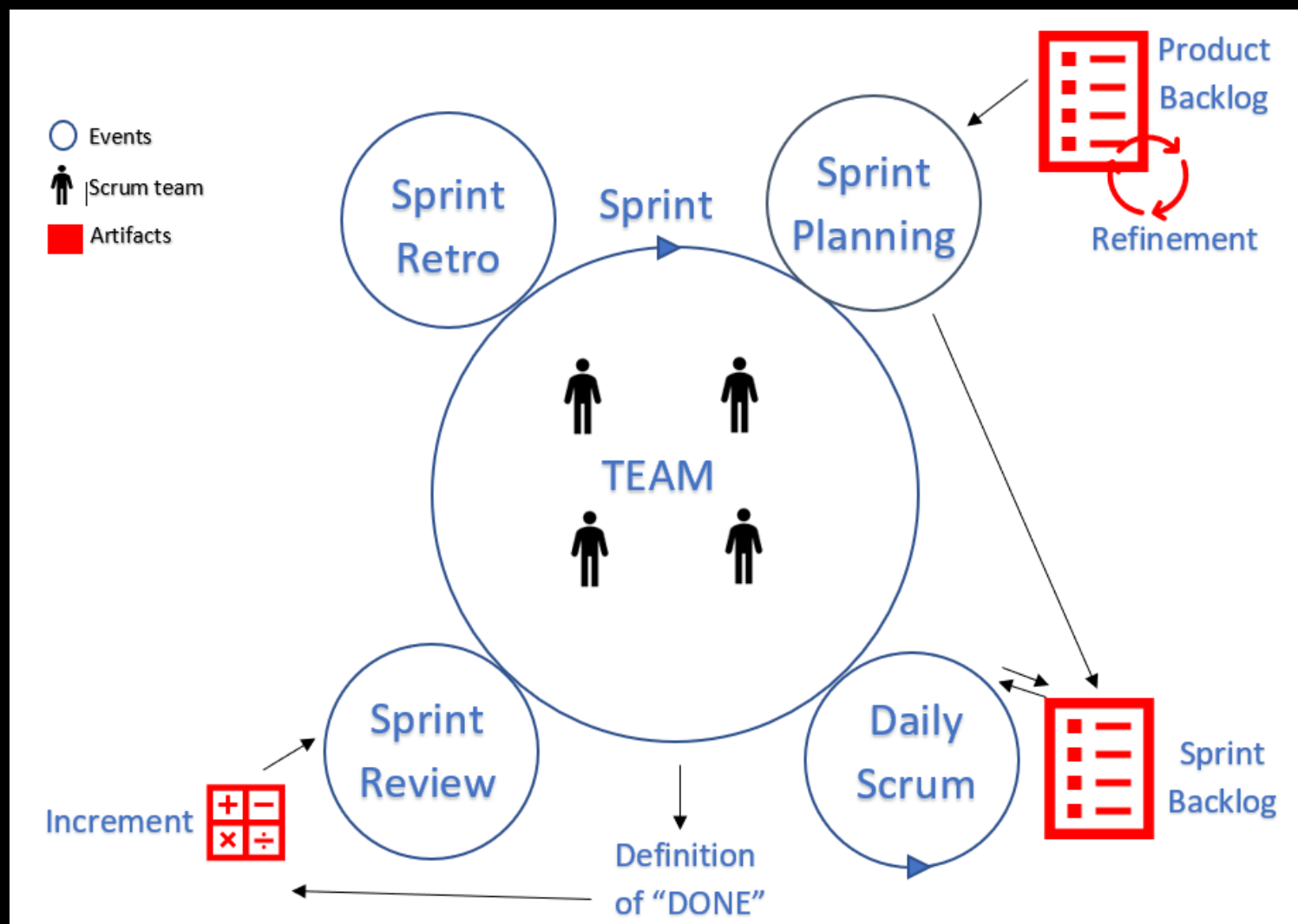
Effective collaboration, resolve role conflicts, helps in establishing Agile practices, support in decision making

## Developer

cross functional, skilled with tools and techniques, committed and available

## Analyst

research oriented, documenting progress of a project for quality control, Process Improvement, Outlining solutions for business, Reporting



# MONTHLY FINANCIAL REPORTING PROCESS

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# PROBLEM STATEMENT 1

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A financial analyst logs into a variety of portals each month to pull the transaction history and convert the transaction history into a concise, presentable report to investors.

The process should be streamlined so that we can move these reports through our pipeline quicker to get these into a distributable state.



# EXISTING PROCESS

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**MANUAL  
AND  
REPETITIVE**



Log in to  
clients'  
dashboards to  
pull the recent  
month's reports



Clean data and  
derive additional  
columns to create  
a distributable  
report



Export the  
report to Excel  
and PDF  
versions



Upload the  
reports to  
Google Drive  
to store  
centrally and  
distribute



# PRODUCT GOAL

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FULLY AUTOMATED  
REPORT  
GENERATION



Pull data for all  
managed  
properties  
using AirBnB  
developer API



Automatically  
generate  
distributable  
reports and  
store centrally  
for reference



Send investors  
their  
corresponding  
monthly reports  
each month

# DEVELOPER STORY TRACKING

The team has leveraged JIRA to track user stories and sub-tasks.

The list of user stories assigned to the developer show the progress made and the product backlog.

▼ **Sprint 1** 2 issues

Build an MVP to automate the generation of investor reports from CSVs downloaded from AirBnB.  
29/Mar/20 7:27 PM • 12/Apr/20 7:27 PM

PV

...

<div>■</div> Set up AWS infrastructure	<div>PV</div> AP-2 ↑ 1
<div>■</div> Store cleaned Excel + PDF versions of CSV downloaded from AirBnB in Google Drive	<div>PV</div> AP-4 ↑ 8

▼ **Sprint 2** 2 issues

Build a scalable web application to enable bulk upload of CSV files by user.  
14/Apr/20 3:05 PM • 28/Apr/20 3:05 PM

PV

...

<div>■</div> A web application to bulk upload CSVs	<div>PV</div> AP-19 ↑ 8
<div>■</div> Receive email alerts when investor reports are generated and stored in Drive	<div>PV</div> AP-6 ↑ 1

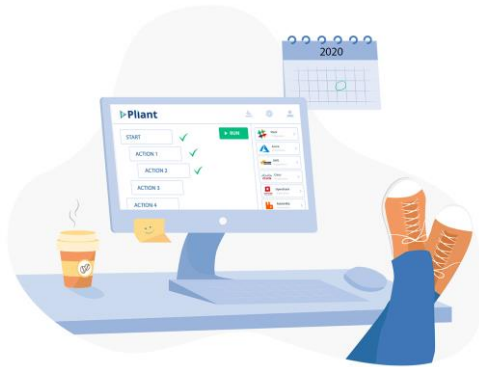
**Backlog** 2 of 5 issues visible [Clear all filters](#)

<div>■</div> Add authentication to web application	<div>PV</div> AP-1 ↑ 5
<div>■</div> Automate provision of AWS Infrastructure using CloudFormation	<div>PV</div> AP-3 ↓ 8

Create sprint ...

# STREAMLINED PROCESS IN NEXT RELEASE

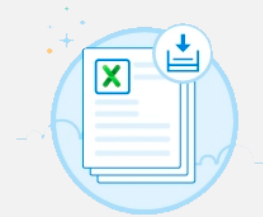
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**SEMI-AUTOMATED**



Log in to clients' dashboards to pull the recent month's reports



Bulk upload all CSVs downloaded from AirBnB to our application



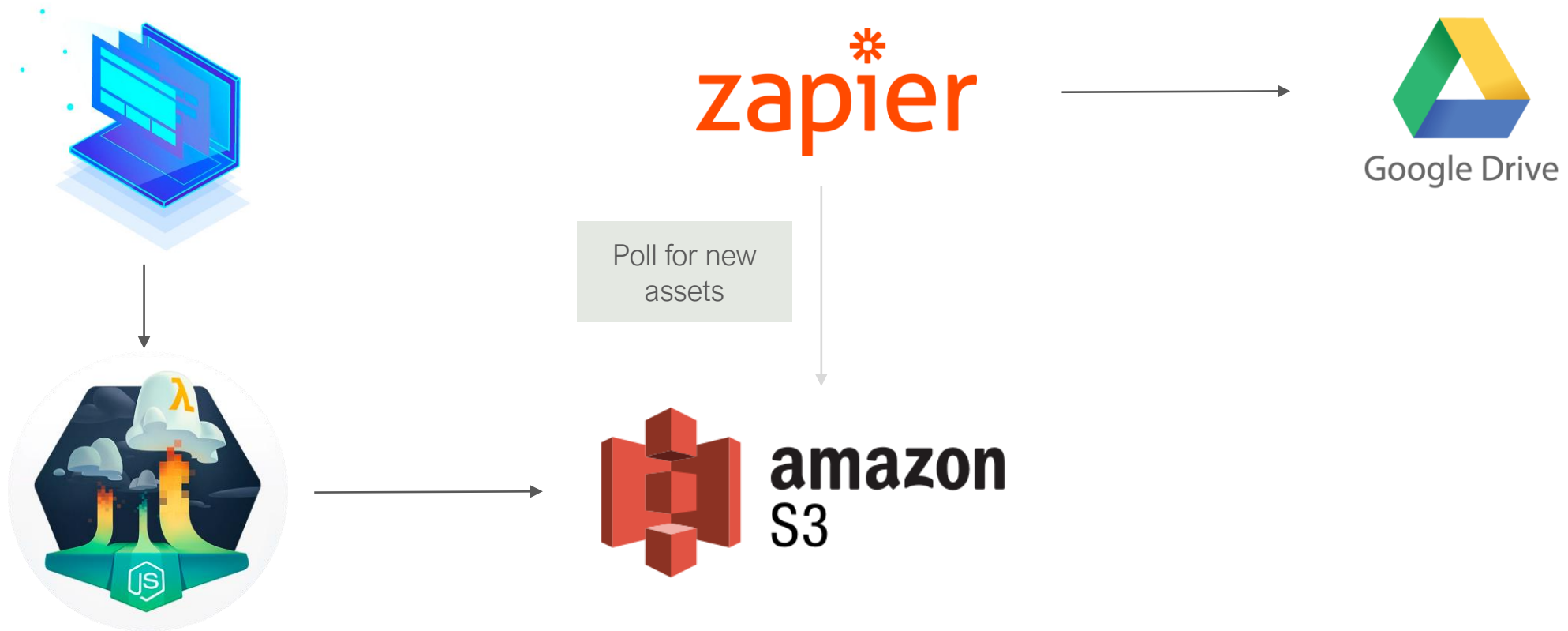
Investor reports are generated in the cloud and pushed to Google Drive



Analyst receives an email after the distributable versions are auto-saved in Google Drive

# ARCHITECTURE - PHASE 1

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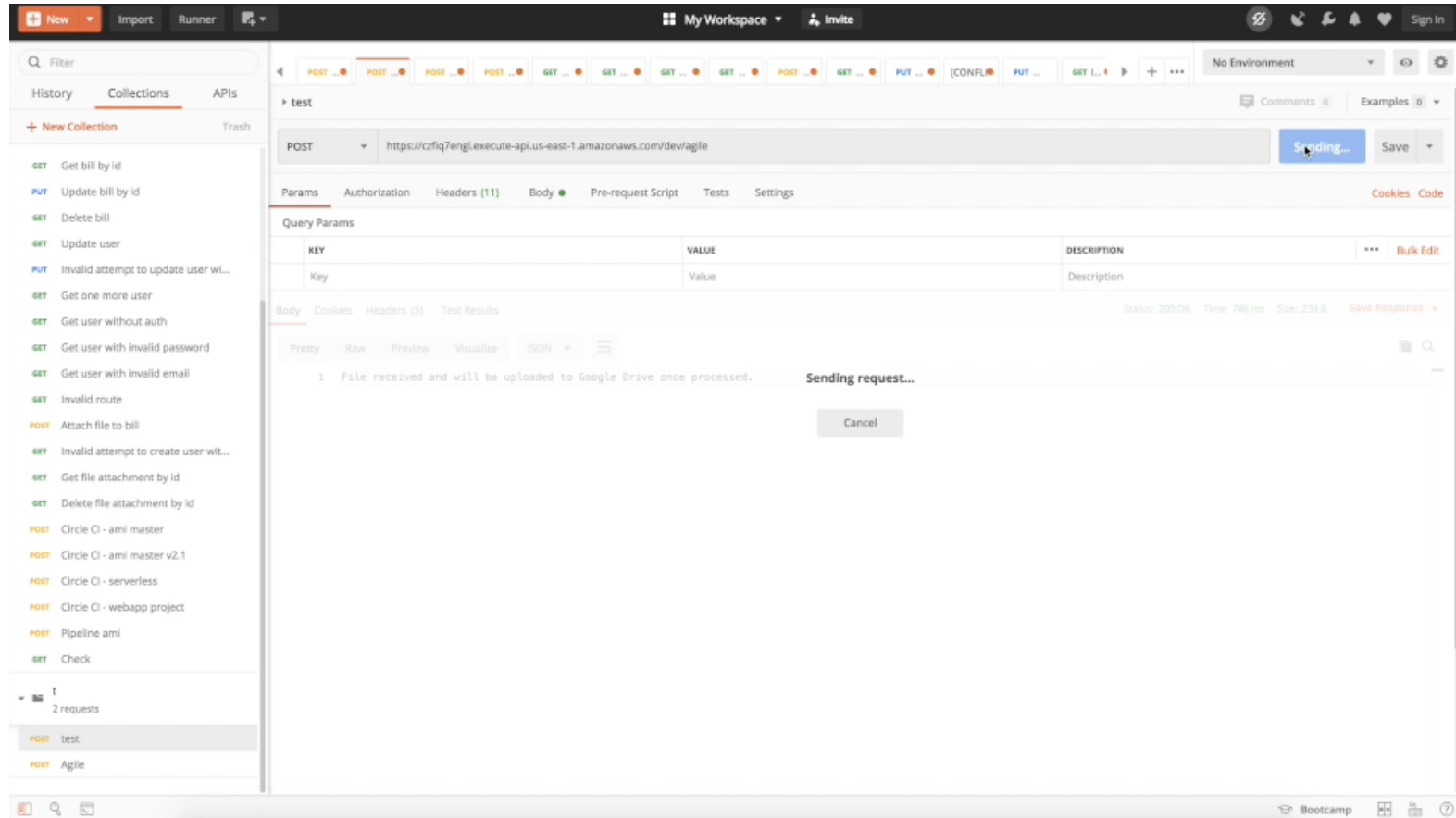


# ARCHITECTURE - PHASE 2

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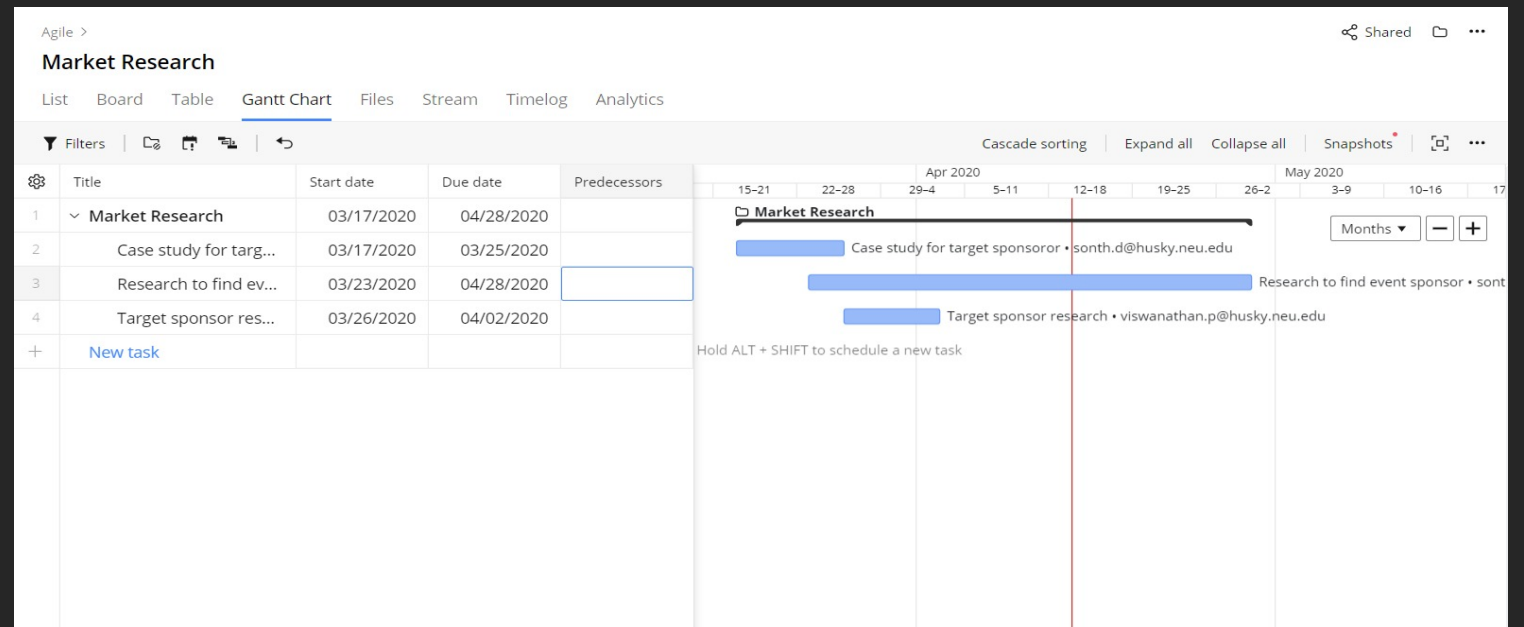
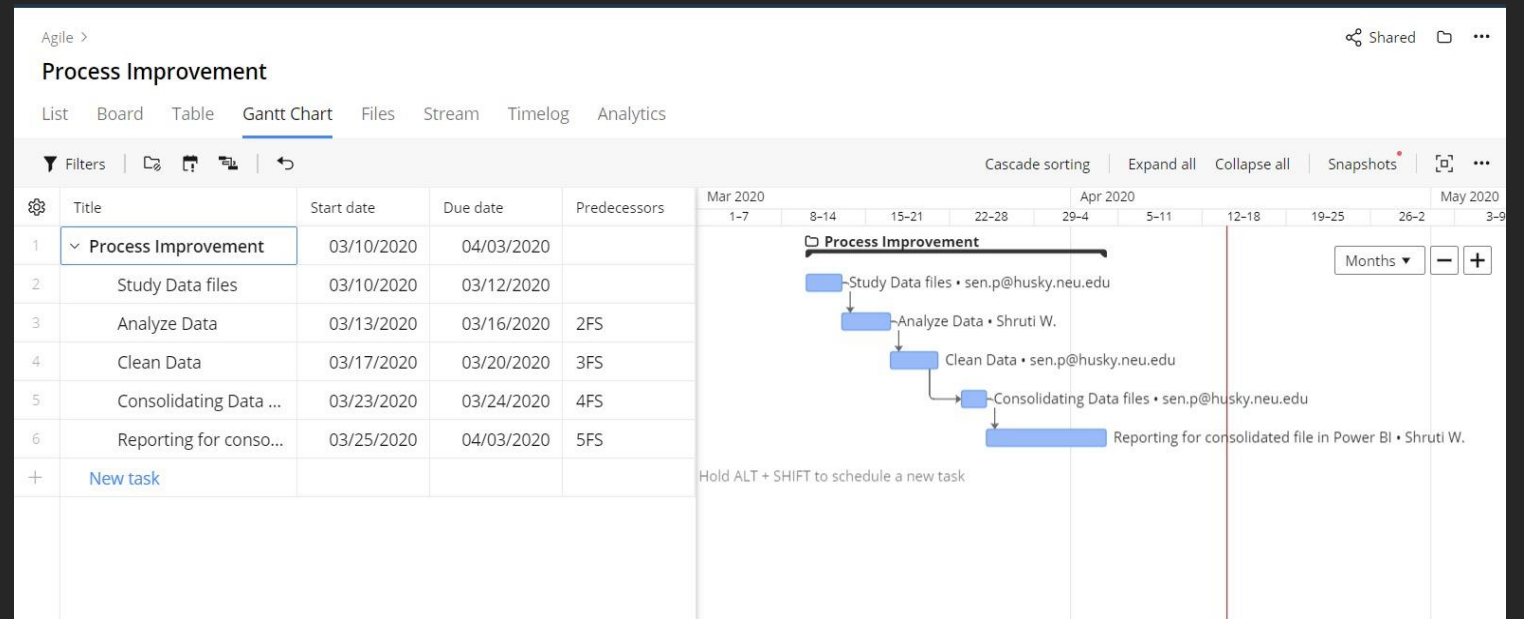
# DEMO



# ANOTHER AGILE TOOL - WRIKE

Tools key Features:

- Simple to do list
- Easy task scheduling
- Map out a product lifecycle
- Team Collaboration



# PROJECT MANAGEMENT LIFECYCLE REPORTING

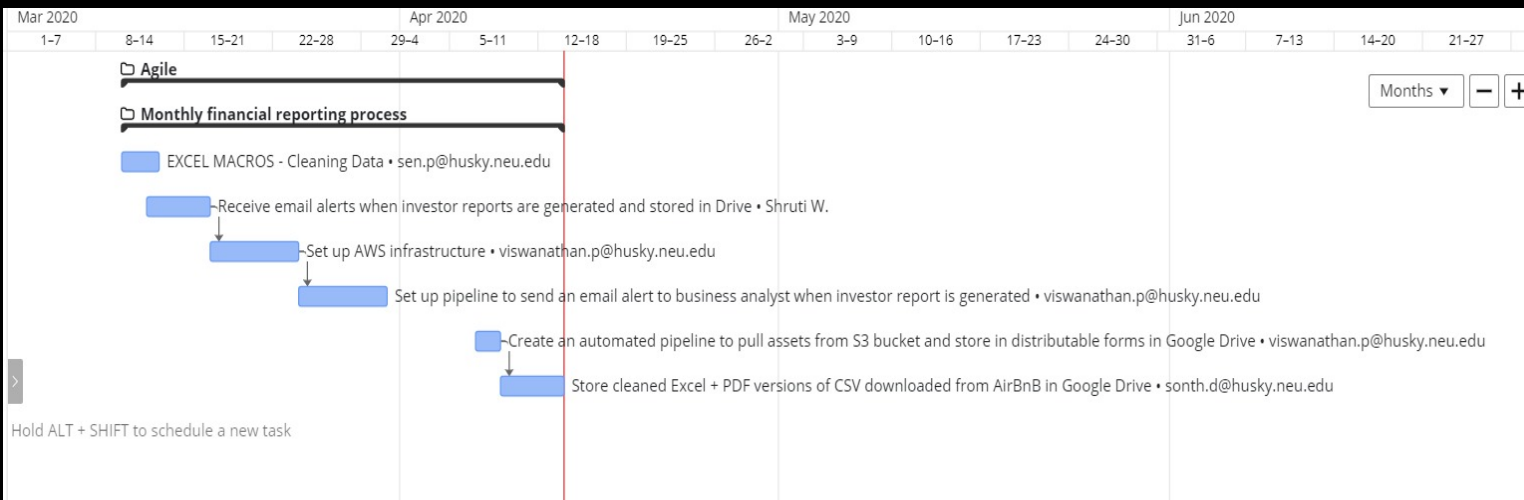
Agile

List Board **Table** Gantt Chart Files Stream Timelog Analytics

▼ All tasks ▼ By Due date ▼ ↺ ↻

Expand/Collapse ▼ Export 📄 ⋮

	Title	Assignee	Status	Start date	Due date ↑	Duration
1	▼ Agile					
2	▼ Monthly financial reporting process					
3	EXCEL MACROS - Cleaning Data	sen.p@husky.neu.edu	Cancelled	03/10/2020	03/12/2020	3d
4	Receive email alerts when investor reports a...	Shruti Walawalkar	Completed	03/12/2020	03/16/2020	3d
5	Set up AWS infrastructure	viswanathan.p@husky.neu.edu	Completed	03/17/2020	03/23/2020	5d
6	> Set up pipeline to send an email alert to bus...	viswanathan.p@husky.neu.edu	Completed	03/24/2020	03/30/2020	5d
8	Create an automated pipeline to pull assets ...	viswanathan.p@husky.neu.edu	Completed	04/07/2020	04/08/2020	2d
9	Store cleaned Excel + PDF versions of CSV d...	sonth.d@husky.neu.edu	Completed	04/09/2020	04/13/2020	3d
+	<a href="#">Add task</a>					





# Overall Process Improvement

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# PROBLEM STATEMENT 2



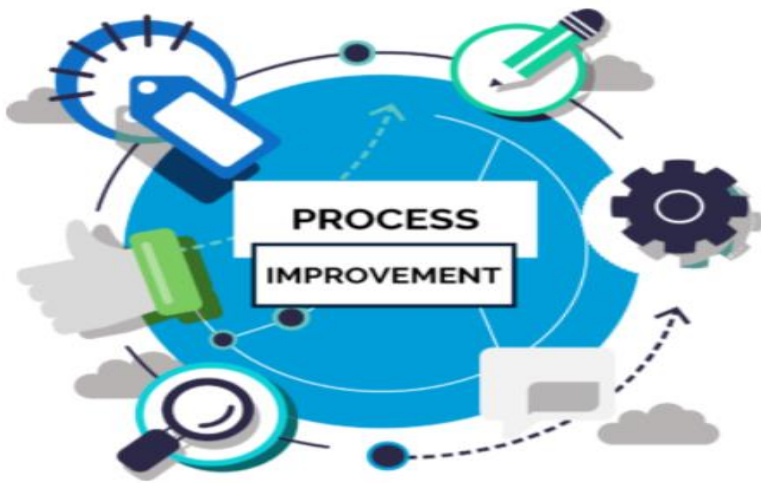
To understand process improvement in Agile



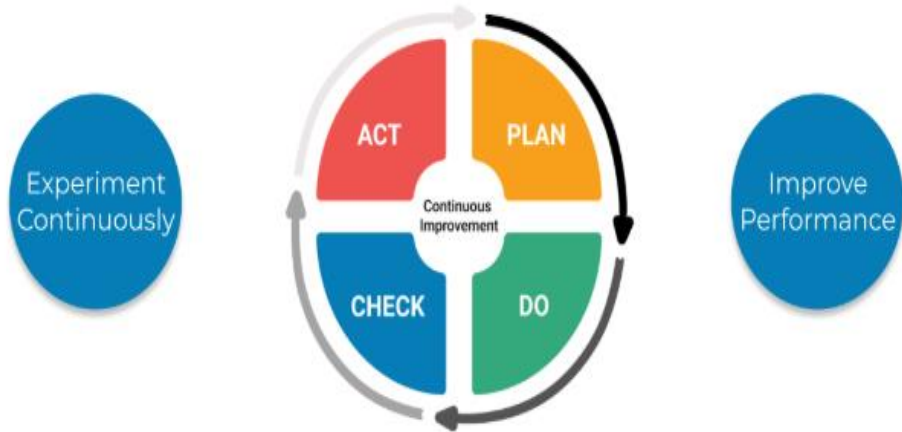
To consolidate the spreadsheets provided by the business into a single workbook



To consider a dashboard report of key metrics by unit



## Continuous Improvement



Process improvement is the initiative of identifying, analyzing, improving and monitoring existing business processes within a company for optimization and to meet new standards of defined performance metrics and quality.

Improving business processes involves the systematic approach of problem-solving that follows a specific methodology by closing performance gaps through cycle time reduction, and elimination of root causes of below specifications quality, process variation, and non-value added activities.

Some examples of these methodologies are Lean, Kaizen, RDM, Benchmarking, and DMAIC. Primarily, these methodologies focus on identifying the problem, assessing current state, root cause remediation and implementing improvement.

# Why Process Improvement?

Increased productivity

Improved quality

Lowered costs

Decreased delivery times

Improved employee satisfaction/morale

Reduced employee turnover rate





# Process Improvement method used : 5S for Good Housekeeping

5S is amongst the first and fundamental steps implemented by an enterprise towards the path of implementing Total Quality Management and continuous improvement at the operation level.

5S steps are:

Step 1 — Corresponding action Seiri (Sort) Distinguish between necessary and unnecessary items. Remove the latter.

Step 2 — Seiton (Set in order) Enforce the dictum 'a place for everything and everything in its place'. Step 3 — Seiso (Shine) Clean up the workplace and look for ways to keep it clean.

Step 4 — Seiketsu (Standardize) Maintain and monitor adherence to the first three Ss.

Step 5 — Shitsuke (Sustain) Follow the rule to keep the workplace 5S-right. Hold the gain.

# 5s in cleaning, analyzing, consolidating and visualizing the data

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Sort

Step 1: Taken the workbooks - 'Maintenance', 'Cleaning', 'Notes' and 'Unit Breakdown', each workbook had multiple worksheets . Looked at each worksheet meticulously in Python to figure out which column are required, the unique values in a column, the spread of data within the column for sorting the workbooks



Set in Order

Step 2: As the data was analyzed and sorted in the previous step, we could discard the empty rows, empty columns, and sheets with no values by using Macros in EXCEL.



Shine

Step 3: After the unnecessary rows, columns and sheets are deleted, then we modified the data accordingly as needed. Example -

1. Modify the unit # - zero37609 to 37609
2. For Unit # in notes workbook - for the record -'all', each distinct unit number is inserted in multiple rows.



Standardize

Step 4: Tried to standardize inserting extra column -'Month' and merging all the months which was in each separate sheet to a single sheet for 'Cleaning' workbook.

Also, tried to merge each cleaned and modified workbook into a single workbook with multiple worksheets using EXCEL Power Query.



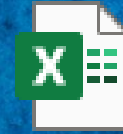
Sustain

Step 5: The consolidation of the multiple workbooks to a single workbook helps to understand, summarize and analyze the process and we should further work on that for further improvements.



# CONSOLIDATED WORKBOOK

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Overall Process  
Improvement



# DATA REPORTING

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"A PICTURE TELLS A STORY BETTER THAN A THOUSAND WORDS COULD"



What is the story your data is trying to tell



What type of data do you want to visualize



What chart type will display your data in the simplest and most efficient way



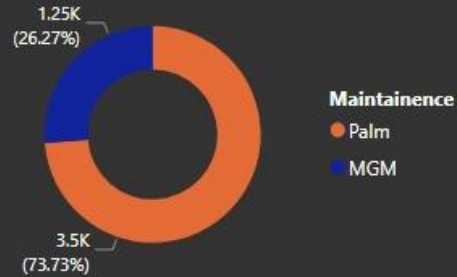
Who is your audience

Link to Dashboards: <https://app.powerbi.com/reportEmbed?reportId=f223c8b2-e567-4951-9883-56f94ccdc30b&autoAuth=true&ctid=a8eec281-aaa3-4dae-ac9b-9a398b9215e7&config=eyJjbHVzdGVyVXJsIjoiaHR0cHM6Ly93YWJpLXVzLW5vcnRoLWNlbnRyYWwtdcmVkaXJlY3QuYW5hbHlzaXMud2luZG93cy5uZXQvIn0%3D>

# ANALYTICS – MAINTAINENCE

- How much of Cost is contributed for each Type
- Number of units for every Maintenance Type
- Top units with maximum Issues
- All Issues costing more than 100
- Top 5 high maintenance units
- Average cost spent on a type of issue

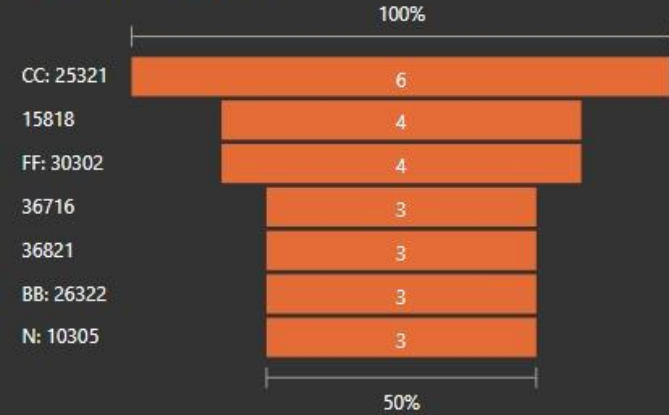
COST by Maintainece



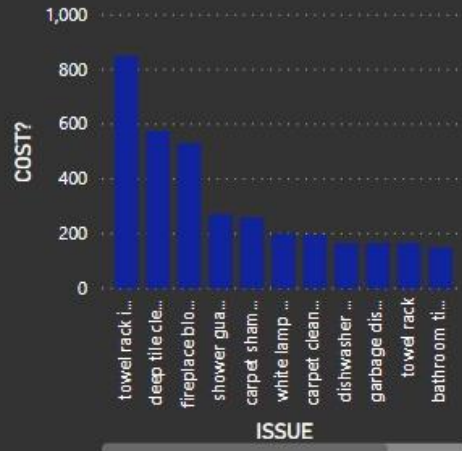
Count of UNIT by Maintainece and Maintainece



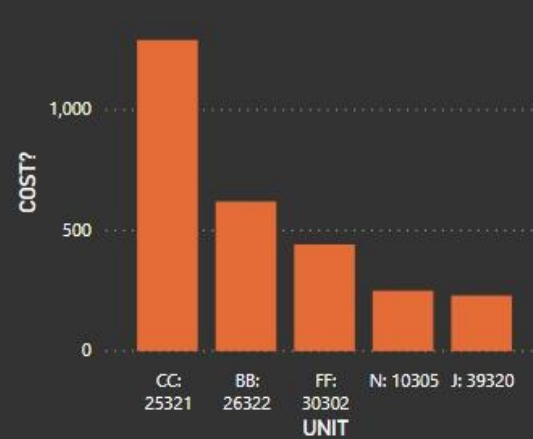
Count of ISSUE by UNIT



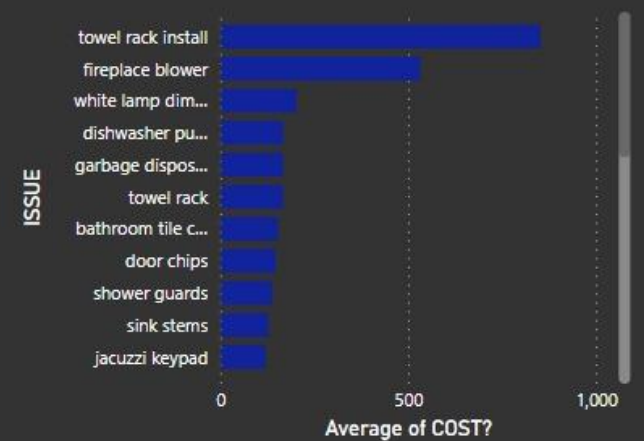
COST by ISSUE



COST by UNIT



Average of COST by ISSUE



# ANALYTICS – UNIT BREAKDOWN

- Number of units in each style – 1BR, combo, etc.
- Top 5 owners with highest average Guarantee
- Owners with max units owned by them
- Contribution to Guarantee with respect to Orientation
- Guarantee by on Style and presence of Balcony
- Units contributing maximum Guarantee



# ANALYTICS – CLEANING

- Total charges every month
- Charges every month for cleaning
- Rooms with highest charges
- How many cleanings are done in a room every month
- What is the average palms folio contribution every month



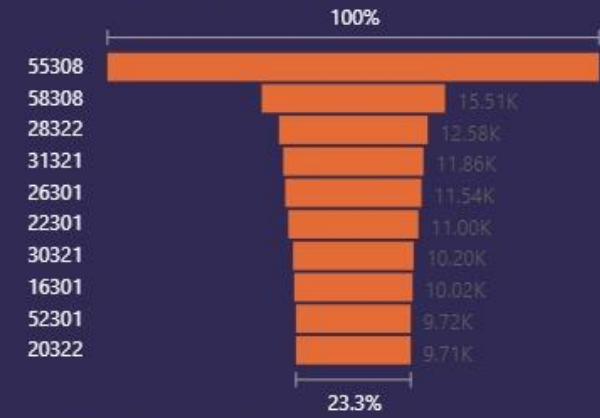
Total Charges by Month



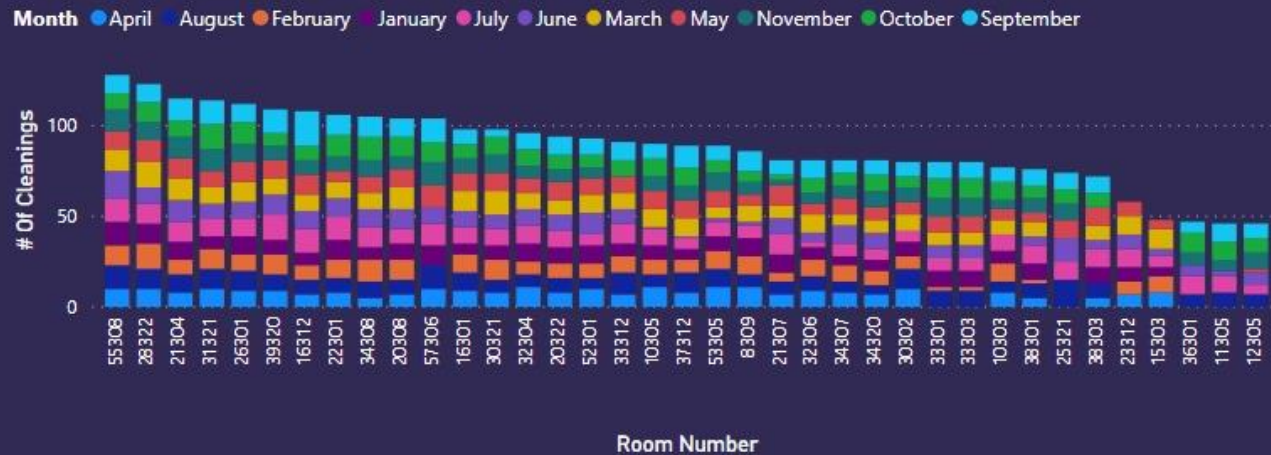
TOTAL Cleaning by Month



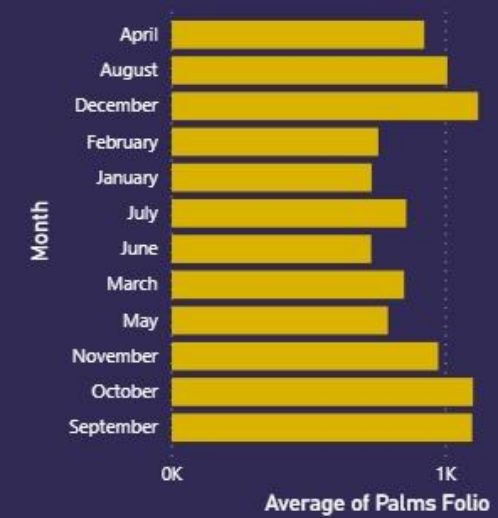
Total Charges by Room Number



Number Of Cleanings by Room Number and Month



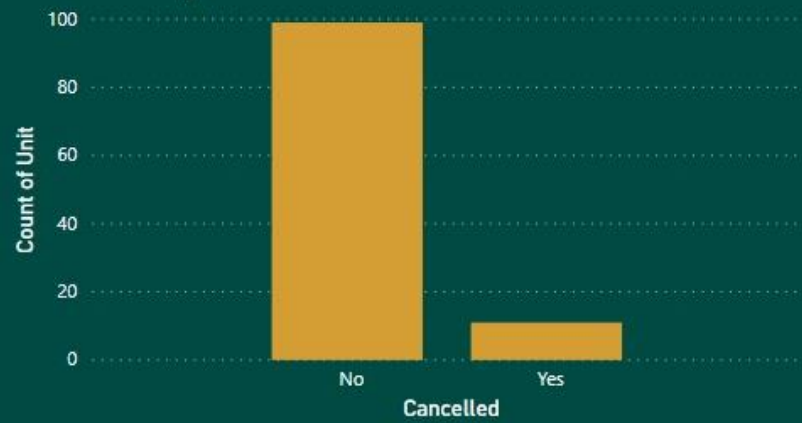
Average of Palms Folio by Month



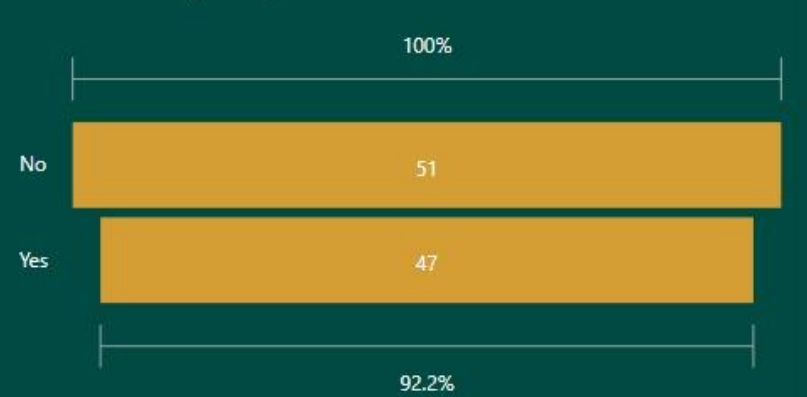
# ANALYTICS – NOTES LOG

- Number of units charged cancelled fee VS not cancelled units
- Count of units that were charged "over paid tax Feb" fee
- Count of units that were charged "late fee"
- Count of units having transaction/ notes for every month

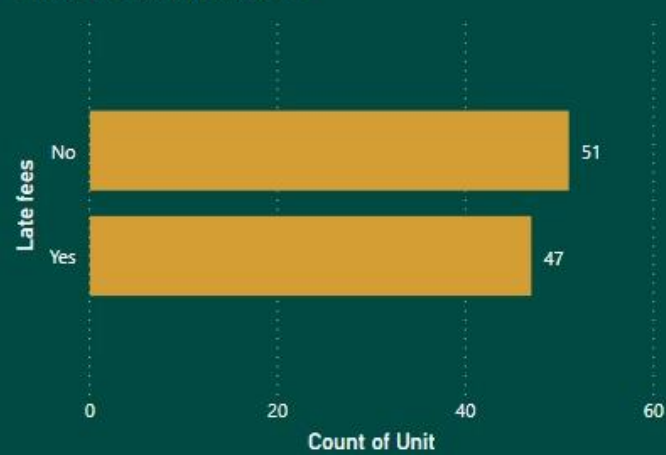
Count of Unit by Cancelled



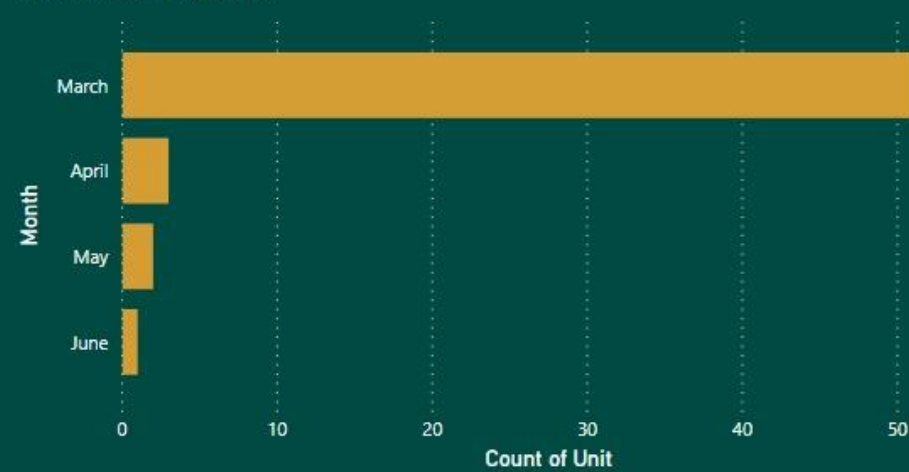
Count of Unit by Overpaid Tax Feb



Count of Unit by Late fees



Count of Unit by Month



# MARKET RESEARCH

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# PROCESS TO TARGET SPONSORS FOR LARGE EVENTS

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Event description including location, date, time, agenda, expected attendance



Target audience personas  
Goals for a sponsor partnership



Sponsorship details including marketing and promotion tactics



Any marketing and promotional partnership requests



Sponsorship benefits



Sponsorship investment

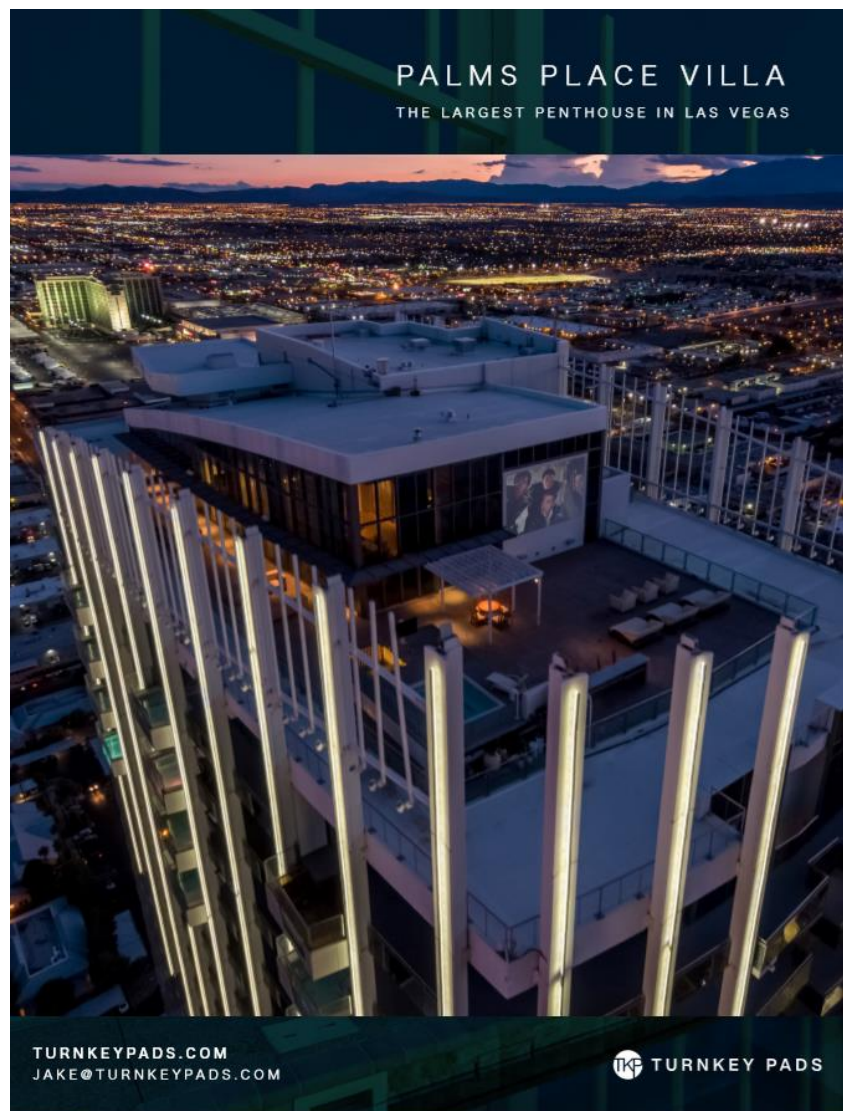


Include Different Event Sponsorship Levels



Make Your Sponsorship Page Enticing and Vibrant

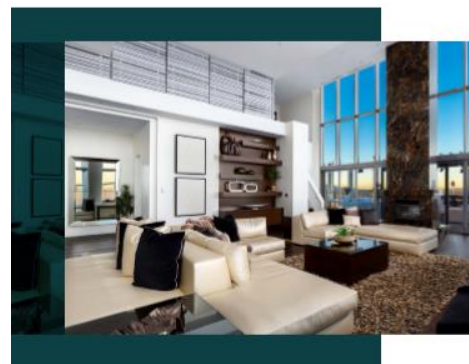




## 4381 FLAMINGO ROAD, PH 5902

Welcome to the highest Penthouse available in Nevada. Floating 59 stories in the Las Vegas sky is the unsurpassed Palms Place Penthouse, dubbed as the Eighth Wonder of the World. This remarkable private residence was created for nothing less than the upscale entertainment-filled lifestyle that only Las Vegas has to offer.

**6,230 INTERIOR SQFT | 12,000 EXTERIOR SQFT | PRIVATE ELEVATOR**



### KEY AMMENITIES

- 300 PERSON OCCUPANCY
- 4 BEDROOMS
- 5.5 BATHROOMS
- INDOOR/OUTDOOR SPACE
- JACUZZI
- OUTDOOR MOVIE THEATER
- SURROUND SOUND THROUGHOUT PROPERTY
- PRIVATE ELEVATOR
- CATERER'S KITCHEN



OFFERING CORPORATE EVENTS, WEDDINGS, BACHELOR/ETTE PARTIES & MORE.  
PLEASE INQUIRE FOR RATES



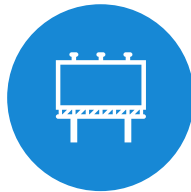
# CORPORATE EVENTS



**PRICE:** \$10,000 to \$100,000



**PLACE:** 4381 Flamingo Road, ph 5902- Penthouse includes wireless internet in every room, full service catering, restaurant & lounge, satellite TV, projectors and more.



**PROMOTION:** Special offers, advertisements, endorsements



**PRODUCT:** 6,230 Interior sqft, 12,000 exterior sqft. Key amenities include 300 person occupancy, 4 bedrooms, 5.5 bathrooms, indoor/outdoor space, Jacuzzi, outdoor movie theater, surround sound throughout property, private elevator, caterer's kitchen.



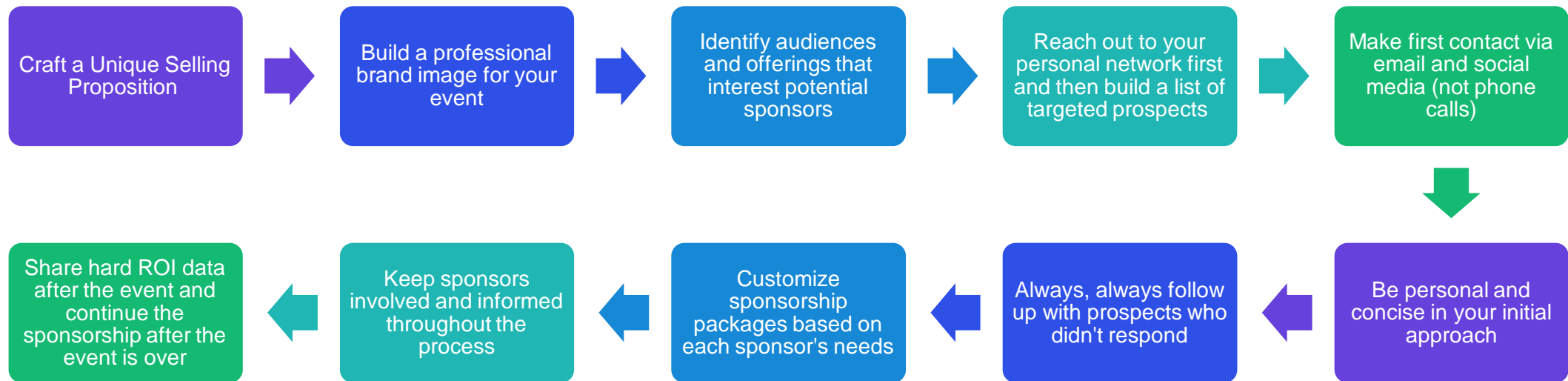
**PEOPLE:** Corporate business officials



**PROCESS:** Wide conferences Meetings, Training, Sales meetings, Product reveals, Board retreats, Team building and leadership retreats, Private dinners, parties, award ceremonies.

# HOW DO WE FIND EVENT SPONSORS?

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# MAKING DISTRIBUTED TEAMS WORK



Agile ☆ Personal Private V DS PS SW Invite

### What went well

★

Using cloud services to automate the process.

#3 Non-estimated V

👍

Use of PowerBI for reporting.

#4 Non-estimated SW

🕒

Collaborating with distributing teams.

#5 Non-estimated DS

+ Add another card

### What didn't go well

✅

Huge stories. We need to split them up.

#1 PS

😟

Using Excel Macro to automate the process.

#2 Non-estimated DS

😞

Use of Excel for reporting

#6 Non-estimated SW

+ Add another card

### Continue

😊


Continue collaborating with distributed teams


#7 Non-estimated DS PS SW V

+ Add another card

# Lessons Learned and Key Findings

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 **Use of Excel for reporting**  
in list [What didn't go well](#)

MEMBERS

SW

+

Non-estimated

 **Description**


Edit

1. Doesn't foster collaboration

2. Can't create interactive dashboards


3. Makes unstructured data a challenge


SUGGESTED


 Join

[Feedback](#)

ADD TO CARD

 Members

 Labels

 Checklist

# Lessons Learned and Key Findings

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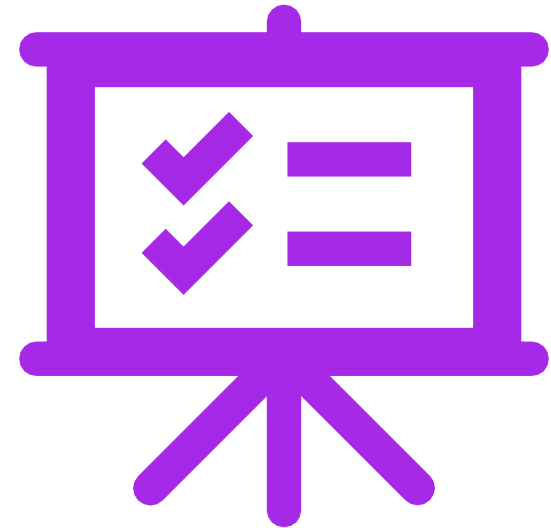


# CONCLUSION

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*Working on the project enabled each one of us to develop the following skills apart from learning tools and techniques:*

- Planning: Decide steps to reach Goal
- Organizing: Having materials, resources in place to increase efficiency and save time, money, energy
- Staffing: Recruiting or allotting tasks based on subject matter expertise
- Leading: Letting an authentic expert lead for the task. Connecting with people on individual basis and being effective leader
- Controlling: Looking for constant improvement. Controlling tasks, schedule, resources and other essentials in managing a project



# REFERENCES

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<https://blog.eventzilla.net/event-resources/5-best-practices-for-finding-event-sponsors/>

<https://billetto.co.uk/blog/event-sponsorship-proposal/>

<https://www.socialtables.com/blog/event-planning/ways-to-attract-sponsors/>

<https://www.entrepreneur.com/article/217913>

<https://blog.planningpod.com/2017/01/26/how-to-get-sponsors-for-events-in-14-simple-steps/>

# ASSET SOURCES

<https://dribbble.com/shots/7179672-Man-working-in-financial-job>

<https://dribbble.com/shots/10729397-volume-3-beta-File-Formats-Release/attachments/2400005?mode=media>

<https://dribbble.com/shots/2584432-Import-vs-create-new>

<https://dribbble.com/shots/4990821-The-Data-Clouds-are-Rolling-In>

<https://dribbble.com/shots/7882026-C-library-for-creating-PDF-documents/attachments/487691?mode=media>

Thank you !