

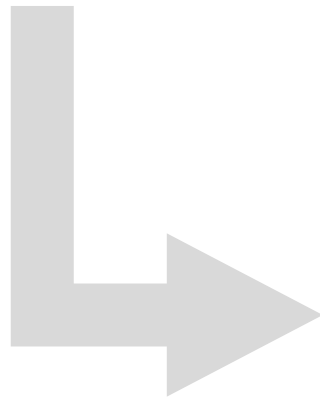
Dashboard for Monitoring and Signaling Elder's Heart Disease



01 Recap from Conceptual design

Teacher's Suggestion

- Is the topic **too wide** ?
- Can be used dashboard every people ?



Resolve

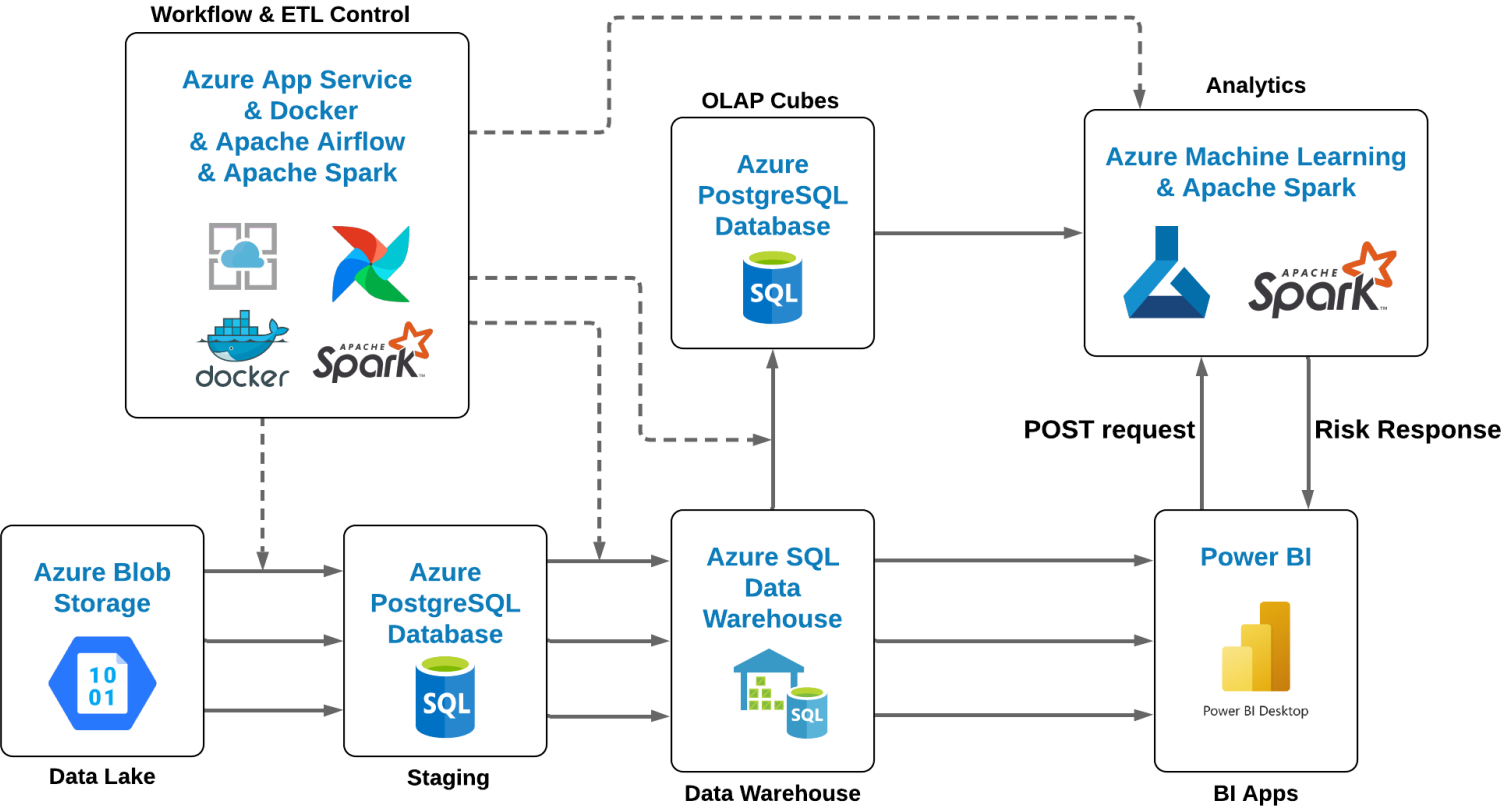
- We choose **Acute Coronary Syndrome-ACS**.
- This Dashboard can be used every people.

Risk

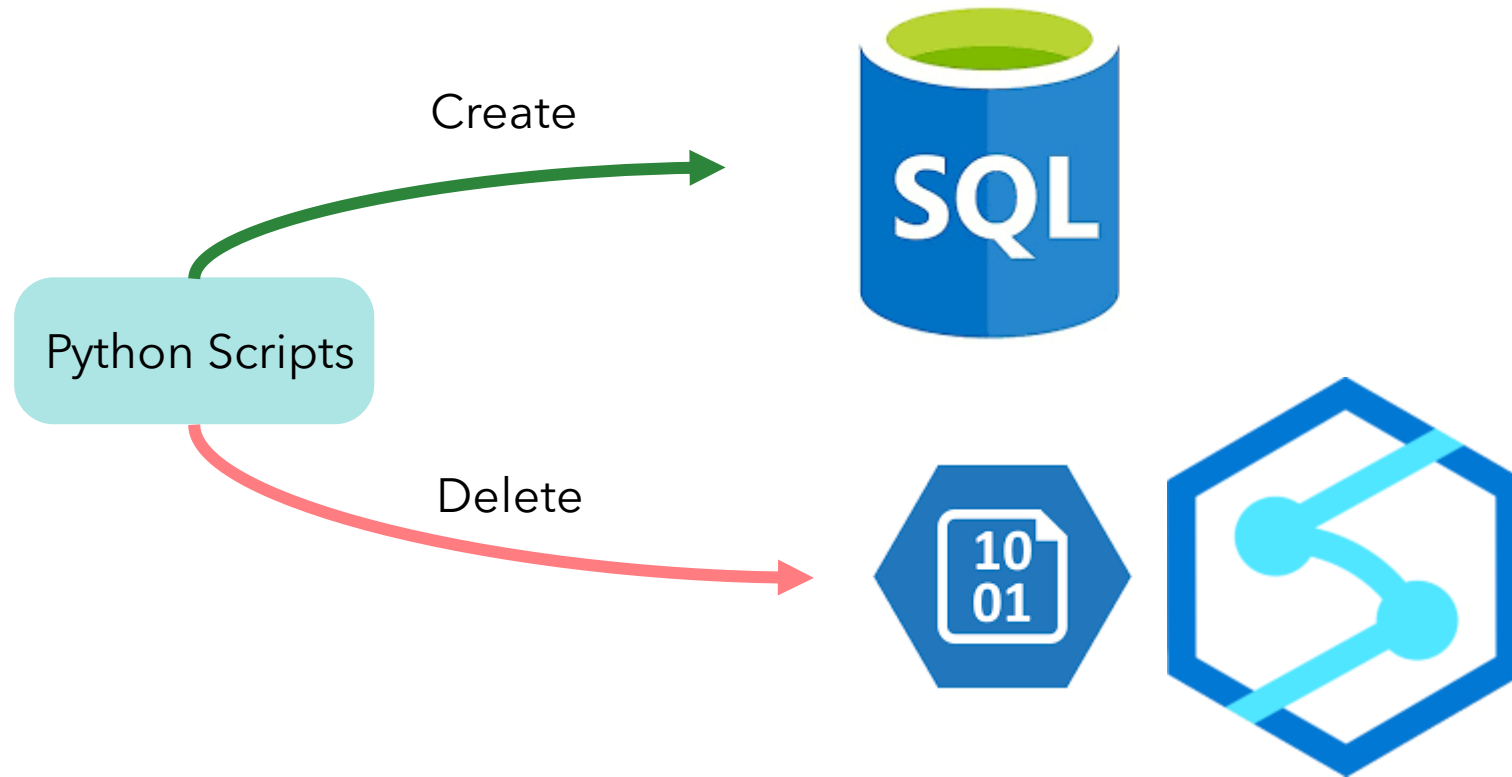
1. Smoking
2. High blood pressure
3. High blood cholesterol
4. Diabetes
5. Physical inactivity
6. Overweight
7. A family history of chest pain, heart disease or stroke

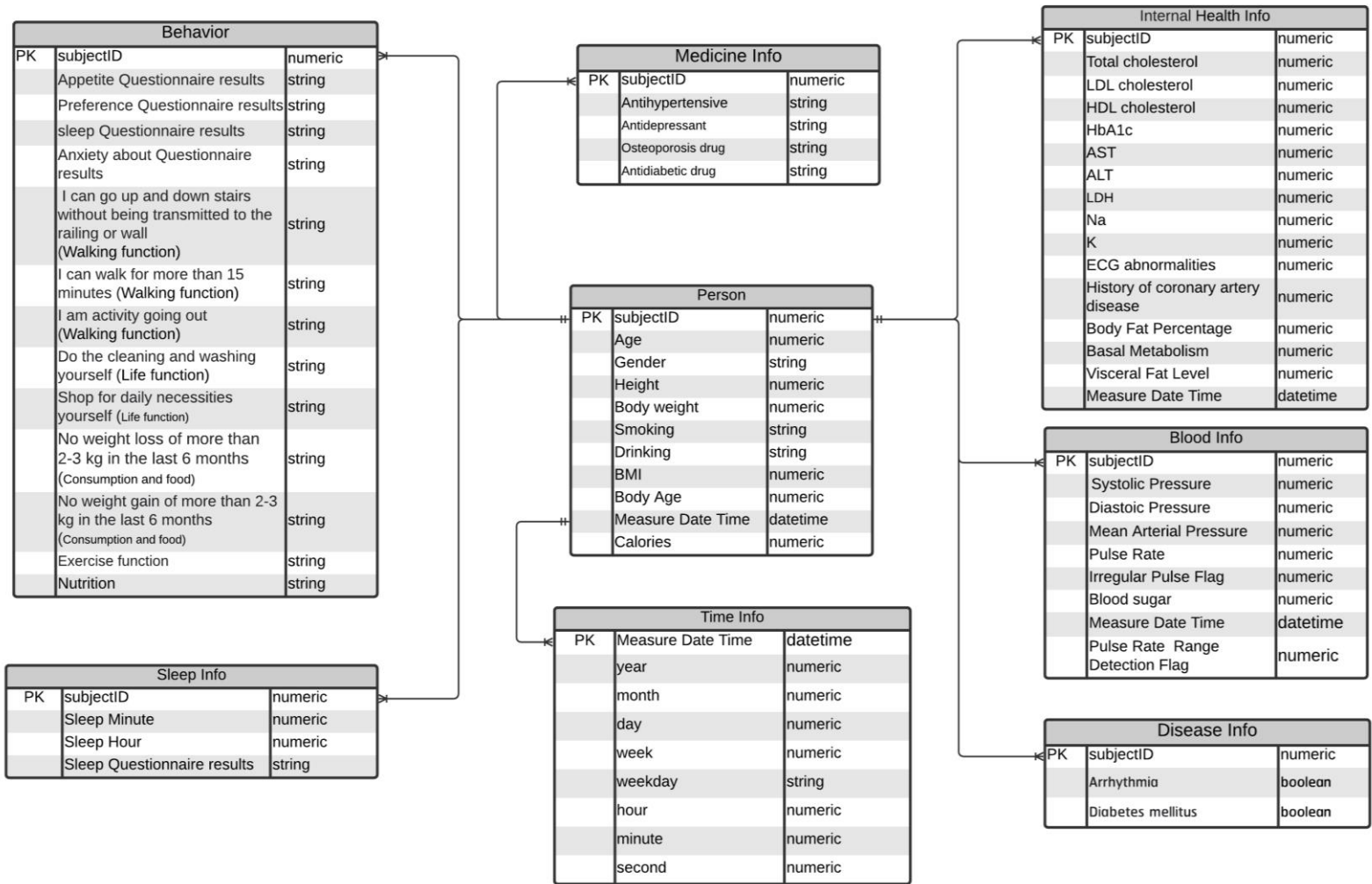


02 DataPipeline



Infrastructure as Code (IaC)





03 DataModel

04 Visualization

Query design

Heart disease risk
(Gauge)

Heart rate & Time
(Line graph)

Average blood
pressure
& Time
(Line graph)

Total Basal Metabolism
(Threshold = BMI * 31)
(Donut)

Sleep time &
Weekday
(Bar graph)

Dashboard design

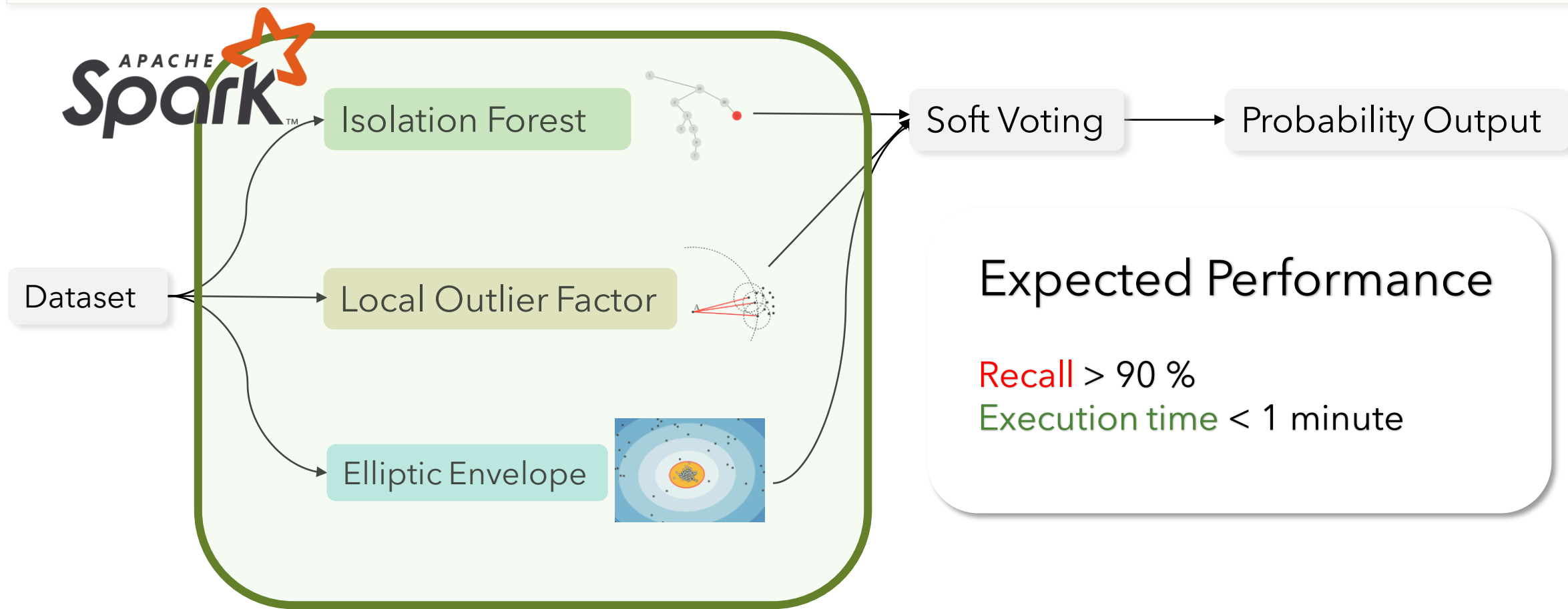


Dashboard Link

<https://app.powerbi.com/view?r=eyJrljoiNWFiZWUxMjYtNDMzMjY0NDNM4LWI3NTQzMzM5MTA5MDA1NjI5IiwidCI6IjZmNDQzMmRjLTlwZDltNDQxZC1iMWRiLWFjMzM4MGJhNjMzMZC1sImMiOiJlwfQ%3D%3D&embedImagePlaceholder=true>

05

Heart Disease Prediction through Anomaly Detection using Ensemble Machine Learning Model

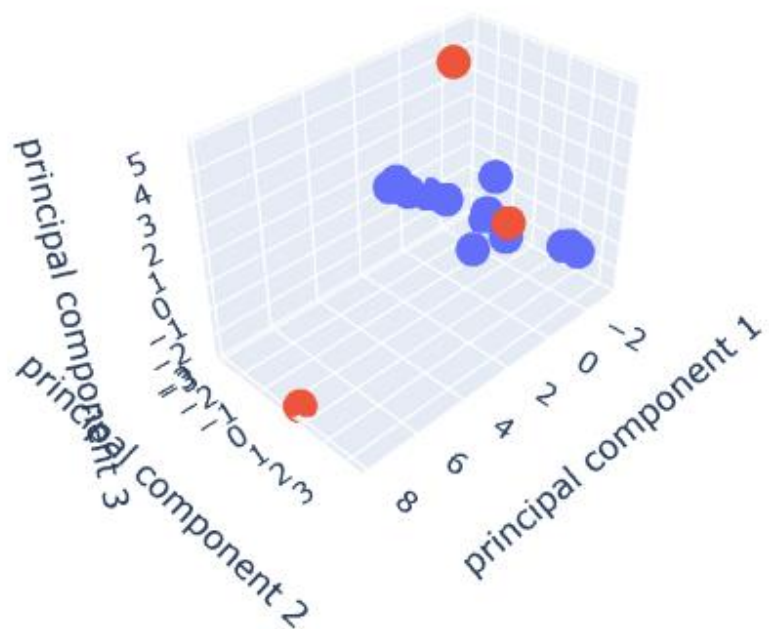
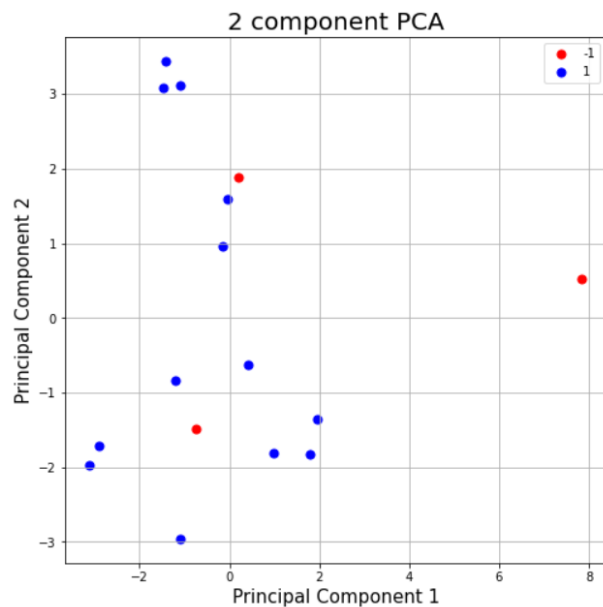


Input Features

- **42 Features**

- BMI, Body Age, Age, Gender, Height, Body weight, Drinking, Sleep Hour, Antihypertensive, Osteoporosis drug, Antidiabetic drug, Body Fat Percentage, Basal Metabolism, Total cholesterol, LDL cholesterol, HDL cholesterol, HbA1c, AST, ALT, LDH, Na, K, Diabetes mellitus, Systolic Pressure, Diastolic Pressure, Mean Arterial Pressure, Pulse Rate, Irregular Pulse Flag, Blood sugar, Appetite Questionnaire results, Preference Questionnaire results, Sleep Questionnaire results, Anxiety about health Questionnaire results, I can go up and down stairs without being transmitted to the railing or wall, I can walk for more than 15 minutes, I am actively going out, Do the cleaning and washing yourself, Shop for daily necessities yourself, Exercise function, Nutrition

Performance Results



```
Precision : 0.8125
✓ Recall   : 1.0
F1-Score   : 0.896551724137931
✓ Time     : 1.458719253540039
```

06 Working Process

Working Process

Project Lead : Mr.Natchapol Patamawisut (Bank)				Start Project : 1/3/2021						Done					
Secretary : Ms.Natchariya Wongamnuayporn (Kao)				Finish Project : 31/5/2021						In Process					
										Late					
Scurm Master : Kao & Project Manager : Bank										Not assign					
Work description	Assign to	Start Date	Mar-21	Apr-21				May-21				Percent (%)	Finish Date	Period Days	Note
			4	1	2	3	4	1	2	3	4				
Sprint2 : System design (31/3/2021 - 26/4/2021)															
Meeting	All member	31/3/2021										100%	31/3/2021	1	
Create IaC	Eye	31/3/2021										90%	I : 4/4/2021 (II : 10/4/2021)(III : 18/4/2021)(IV : 21/4/2021)	~ 19	Create Infrastructure As Code
Programming	Bank	31/3/2021										100%	4/4/2021	5	Manage data to match the data
Demo Virtualization	New	31/3/2021										100%	4/4/2021	5	
Demo Docker	Fuze	31/3/2021										100%	5/4/2021	6	
Meeting	All member	4/4/2021										100%	4/4/2021	1	Update work
Extract and load Data	Fuze	5/4/2021										90%	21/4/2021	16	
Virtualiation	New,Kao	5/4/2021										95%	21/4/2021	16	Light & Dark Theme (Dark finish)
Machine Learning	Bank	5/4/2021										100%	18/4/2021	13	
Testing & Report	Kao,Bank	19/4/2021										100%	20/4/2021	1	
Presentation	All member	26/4/2021										0%	26/4/2021	1	End Sprint 2

Sprint3 : Implement & Deployment (26/4/2021 - 10/5/2021)															
Meetings	All member	26/4/2021										0%	26/4/2021	1	
Deploy Model	Bank	26/4/2021										0%	2/5/2021	6	
Airflow	Bank	26/4/2021										0%	2/5/2021	6	Automate Workflow
Deploy Airflow	Fuze	26/4/2021										0%	2/5/2021	6	
Spark (Olap cube)	New,Kao	26/4/2021										0%	2/5/2021	6	Transform Data
Data Profiling	Eye	26/4/2021										0%	2/4/2021	7	Using great_expectation
Testing & Report	Kao,Bank	4/5/2021										0%	7/5/2021	3	
Meeting	All member	10/5/2021										0%	10/5/2021	1	End Sprint 3
Sprint 4 : Testing (10/5/2021 - 31/5/2021)															
Meetings	All member	10/5/2021										0%	10/5/2021	1	
Testing Model	Bank	10/5/2021										0%	18/5/2021	8	
Testing Pipeline	Eye	10/5/2021										0%	18/5/2021	8	
Testing Infrastructure	Fuze	10/5/2021										0%	18/5/2021	8	
Testing Dashboard	New	10/5/2021										0%	18/5/2021	8	
Testing & Report	Kao,Bank	19/5/2021										0%	21/5/2021	3	All testing & Report
Final Presentation	All member	31/5/2021										0%	31/5/2021	1	End Sprint 4

07 Next Step Process

Members & Responsibility



Ms.Natchariya Wongamnuayporn
(Kao)
61070507204



Mr.Natchapol Patamawisut
(Bank)
61070507205



Ms.Thanaporn Cheenthada
(Eye)
61070507209



Mr. Rungwigrat Payakkanuwat
(New)
61070507219



Mr. Prakasit Chaiphet
(Fuze)
61070507230

Responsibility

- Kao** : Virtualization & Report
- Bank** : Machine Learning & Presentation
- Eye** : Create Infrastructure As a code
- New** : Virtualization
- Fuze** : Extract and Load Data

Reference

- <https://www.siphhospital.com/th/news/article/share/857/Acutecoronarysyndrome>
- <https://www.mayoclinic.org/diseases-conditions/acute-coronary-syndrome/symptoms-causes/syc-20352136#:~:text=Acute%20coronary%20syndrome%20is%20a,damaged%20or%20destroyed%20heart%20tissue.>
- <https://www.heart.org/en/health-topics/heart-attack/about-heart-attacks/acute-coronary-syndrome>