



Cooperative Education Report

“MTP Portal – Move To Production Portal”

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Abstract

"MTP Portal" (Move To Production Portal) is a tool for moving the element of robotics automation process (RPA) from acceptant environment to production environment. In order to get the RPA running, a configuration tool is required, which is the orchestrator that maps between the robot script and virtual machine to run the process and stored assets (variable for robot scripts). Basically, what MTP Portal does is move the element of RPA, which is Asset, Robot script, Schedule and Queue that edits their values to become production values from acceptant orchestrator to production orchestrator.

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I, Mr. Phison Khankhang, took part in the cooperative education program at Exxonmobil Limited from 3 June 2019 to 10 January 2020. This program has given me various valuable experiences. This cooperative education report would not be completed, if I had not received help and cooperation from the following people.

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Mr. Phison Khankhang

Autor

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Table of Contents

	Page
Abstract	I
Acknowledgement.....	II
Table of Contents	III
List of Tables	IV
List of Figures	V
Chapter 1 Introduction	1
1.1 Background.....	1
1.2 Objectives	1
1.3 History and Details of the company.....	1
1.4 Scope	3
1.5 Method	4
1.6 Expected Outcomes	6
Chapter 2 Literature Review	7
2.1 Theoretical Background.....	7
2.2 Related Work.....	7
Chapter 3 Methodology	8
Chapter 4 Result.....	12
Summary	38
References.....	43
Appendix A.....	44
Biography	48

List of Tables

	Page
Table 1.1 Cooperative Education Program Timeline.....	3



List of Figures

	Page
Figure 1.1 Angular icon	4
Figure 1.2 Visual Studio Code icon	5
Figure 1.3 Visual Studio TFS icon.....	5
Figure 1.4 Adobe XD icon	5
Figure 1.5 UI Path and IT Console API.....	5
Figure 3.1 MTP Portal relation with UI Path Orchestrator and IT Console API.....	10
Figure 3.2 MTP Portal Asset Feature use case diagram.....	11
Figure 4.1 Old MTP form	12
Figure 4.2 Old MTP Assets process.....	13
Figure 4.3 Asset Selection table.....	14
Figure 4.4 Select Organization name.....	14
Figure 4.5 Ellipsis Asset value.....	15
Figure 4.6 Search filter	15
Figure 4.7 Select some assets	16
Figure 4.8 Selected assets in Asset Selection Table.....	16
Figure 4.9 Select all assets in the particular page.....	17
Figure 4.10 Asset selected from select all button.....	17
Figure 4.11 Select organization to migrate.....	18
Figure 4.12 Next button for proceed to the summary page.....	19
Figure 4.13 Summary page.....	20
Figure 4.14 Summary table.....	21
Figure 4.15 Necessary CRQ required field.....	21

	Page
Figure 4.16 Select approvers.....	22
Figure 4.17 Invalid approver.....	22
Figure 4.18 Requester cannot be an approver.....	23
Figure 4.19 Select IT Console group.....	23
Figure 4.20 Select change coordinator.....	24
Figure 4.21 Invalid change coordinator.....	24
Figure 4.22 Change coordinator cannot be an approver.....	25
Figure 4.23 All necessary CRQ field filled.....	25
Figure 4.24 Do you want to proceed to create CRQ ticket?.....	26
Figure 4.25 Loading of creating CRQ ticket.....	26
Figure 4.26 CRQ ticket has been created.....	27
Figure 4.27 Assets details in CRQ ticket note.....	27
Figure 4.28 Assets details in CRQ ticket work detail.....	28
Figure 4.29 Assets details for MTP Portal in CRQ ticket work detail.....	29
Figure 4.30 An approver in CRQ ticket.....	30
Figure 4.31 MTP Portal's CRQ display in IT Console.....	30
Figure 4.32 View Request page.....	31
Figure 4.33 Ticket Details page.....	32
Figure 4.34 Before fill the credential password.....	33
Figure 4.35 After fill the credential password.....	33
Figure 4.36 Loading update asset.....	34
Figure 4.37 After assets updated and CRQ ticket closed.....	34
Figure 4.38 CRQ ticket closed in IT console.....	35
Figure 4.39 UI Path Orchestrator before update 1.....	35

	Page
Figure 4.40 UI Path Orchestrator before update2.....	36
Figure 4.41 UI Path Orchestrator after update.....	36
Figure 4.42 UI Path Orchestrator audit log1.....	37
Figure 4.43 UI Path Orchestrator audit log2.....	37
Figure 5.1 SBI section	38
Figure 5.2 Intern meeting	39
Figure 5.3 Lunch with Tac (Thailand area council).....	39
Figure 5.4 Get together activity.....	40
Figure 5.5 Boot Camp 2019.....	40
Figure 5.6 Professor visit.....	41
Figure 5.7 ExxonMobil IT Open house 2019.....	41
Figure 5.8 Team Photo Group.....	42
Figure 5.9 Intern Show.....	42
Figure A.1 Angular icon.....	44
Figure A.2 Architecture of an Angular application.....	44
Figure A.3 UI Path logo.....	46
Figure B.1 Mr. Phison Khankhang.....	48
Figure B.2 Visit Kaidee company.....	49
Figure B.3 1 st Winner Debate Contest.....	49
Figure B.4 Intern Aboard.....	50
Figure B.5 1 st Winner startup Thailand 2018.....	50
Figure B.6 Booth visit at tech event in Tokyo.....	51
Figure B.7 1 st Winner best lap dirt (racing game) contest.....	51

Chapter 1

Introduction

1.1 Background

Presently, robots have taken the place of many humans at work. In big companies there are many repetitive positions in the business process, such as copying information from excel to another program or sending emails to customers. The Robotics Process Automation (RPA) has come to replace repetitive work offering automation, which has released humans from their work. However, this has created bottleneck in the release of robot scripts to the production process because in order to move robot scripts one needs to put script details into an excel file and create CRQ ticket (Change Request Ticket for audit purpose) and then wait for its approval in the ticket so that the service team can make changes in the production orchestrator, which takes around 7 days to complete. This is the reason why MTP Portal has been created, in order to reduce the time for moving to the production process from 7 days to around 15 minutes.

1.2 Objectives

1. To reduce time of moving to production process
2. To eliminate human errors in moving to production process

1.3 History and Details of the company

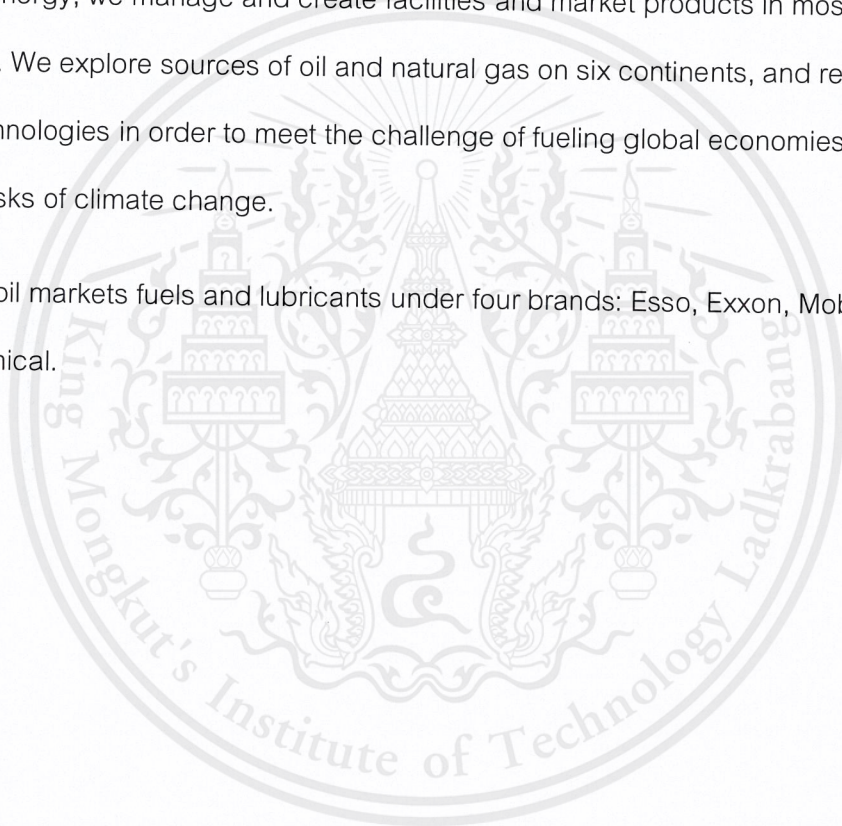
ExxonMobil Limited (at Harindhorn Building, Sathon 4)

ExxonMobil, one of the world's largest publicly traded energy providers and chemical manufactures, invents and implements new-generation technologies to support, safely and responsibly, the growing needs of the world for energy and supreme chemical products.

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ExxonMobil markets fuels and lubricants under four brands: Esso, Exxon, Mobil and ExxonMobil Chemical.



1.4 Scope

Work position: Development consultant

Job title: Research and develop the web application (MTP Portal) project

Duration: 3 June 2019 to 10 January 2020

Work details: finalize the requirements and develop the web app name MTP Portal then reach out and hold training sessions for users.

Goals: to develop one stop service web application for move to production.

Deliverables: The program can generate CRQ ticket and update RPA script details in orchestrator.

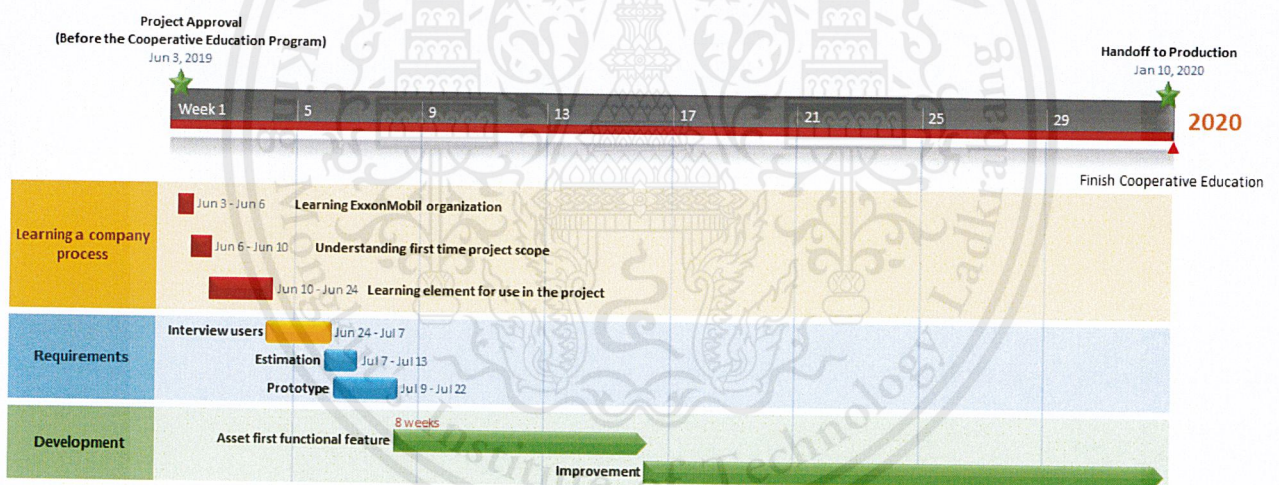


Table 1.1 Cooperative Education Program Timeline

In Table 1.1 it show timeline of the internship that divide into 3 phase first is learning a company process, second is getting requirements and last one is development phase which is the longest time compare to others.

1.5 Method

We use agile methodology for running this project so these information below are how we do to deliver the project.

1. Make decision how long of each sprint would it be. In this project we decided to use 2weeks per sprint.
2. Define tasks for do in a sprint.
3. First day of the sprint each team member pick up tasks that capable for there capacity.
4. During the sprint each team member do there tasks. If anyone get roadblock of doing there task others will come to help immediately.
5. Last day of the sprint we have retrospective for revise our work are there any roadblock or unexpected events occur.
6. We keep doing this until last day of the internship for deliver the project.

Below are tools that we use during the project(Technology Stack)



Figure 1.1 Angular icon

Angular : a programming language for developing web application.

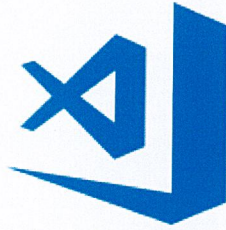


Figure 1.2 Visual Studio Code icon

Visual Studio Code: an integrated development environment (IDE) used as a compiler for Angular.



Figure 1.3 Visual Studio TFS icon

Visual Studio TFS: builds and releases pipeline and source controller for the project.



Figure 1.4 Adobe XD icon

Adobe XD: a tool for making a mockup of the web application.



Figure 1.5 UiPath and IT Console API

UiPath and IT Console API: used for viewing and editing information on UiPath Orchestrator and IT Console that MTP Portal uses for automation process.

1.6 Expected Outcomes

MTP Portal will help the people at ExxonMobil in the MTP process and eliminate human errors. It will also facilitate my knowledge in angular language and improve my collaboration skill. Hence, after I have completed one of the MTP Portal features, I should be able to write structured scalable readable and maintainable angular codes and have good collaboration with others.



Chapter 2

Literature Review

2.1 Theoretical Background

Development consultant: to research and develop new technologies in order to consult ExxonMobil IT (EMIT) for development.

Project Details: MTP Portal

MTP Portal is a tool for moving robot automation process to production. In order to make scripts work, a robot script is required to provide automation, which includes assets to be variables, a scheduled run time and queue to prioritization. This project is merely a concept that includes some ideas. Therefore, my goal is to work with my teammate in order to make MTP Portal a reality.

Application programming interface(API) a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service. With API new applications could clone ability from other application to reduce redundant functions and procedures.

2.2 Related Work

Since the MTP Portal is only in its theoretical phase, no similar web application tools have been developed. However, there are some related works in terms of using the same API, such as, Bot-Repo, a web application for keeping data on robot dependency created by some member of RPA team in 2017, which uses orchestrator API to query robot details and IT Console API to create change request tickets for auditing purpose.

Chapter 3

Methodology

In the company we follow Agile methodology, therefore, we do agile ceremonies. After first obtaining the requirements from the users, we move onto planning the ceremony. I have to plan what our team will do first and prioritize the tasks by using effort points, which evaluate our team members and discuss how to get the effort point that we all agree on. Then we have to define the requirements, such as, what are the real customer needs (tension point), which they are sometimes not aware of. Once all the team members have agreed on and understand the requirements, we then start to breakdown and prioritize the tasks in each sprint (1 sprint = 2 weeks) for the development and implementation process. The prioritized tasks are then put into a backlog (stored task that have to be finished within the sprint) and development and implementation begin. Following this, we must test the features by using test scenarios (test case) before letting the user review the application at the end of the sprint. Then the users will review and provide feedback to improve the application in becoming more suitable for the user. We then go back to the first step and repeat the ceremonies again. This will make us deliver functional features in application to the users.

First, I and my teammate, Woranitha Hueghansombat (Grace), gather information for the MTP Portal project and RPA process and then we studied Angular (programming language for create web application) in Pluralsight (online learning web application). It took us around 2 weeks to complete the course. Subsequently, we interviewed the users to collect their requirements and then designed a mock-up of MTP Portal. Two months later, we completed the requirements and started to plan and prioritize features and tasks for development and the implementation of the MTP Portal sprint by sprint.

The work was divided into four main features, as follows.

1. Assets
2. Robot Script
3. Schedule
4. Queue

Based on our discussions, we decided to develop the assets feature first. We started to create the interface of MTP portal and techspike and chose the APIs that will be used. My teammate focused on the UI (user interface) part and I focused on the logical part and on the API services that will be used in the project based on our skills and experience. For the first sprint of development, there were some obstacles and difficulties, such as, learning new APIs, writing web application, defining components, unclear tasks, underestimating the timeline and lack of pair programming. After solving these, we learned and improved our knowledge in order to successfully collaborate and develop the project. The second sprint phase passed, we were able to develop both the UI part and logical part of MTP Portal because I and my teammate shared knowledge. Four months later, we were faced with errors and bugs because some parts of the code that we wrote were not simple enough and each function had more than one purpose. This led us to the refactor phase, which was the most difficult phase in my opinion. In this phase, I had to do naming convention, re-arrange functions, spread functions while keeping the code readable. After refactoring, I obtained knowledge on how to use async await function, which provides asynchronous compile timeline. Following this, we had to do a proper error handling when the application broke down, so the user would know what was happening.

How it works?

Figure 3.1 shows the MTP Portal uses UI Path Orchestrator API for query assets details filtered by the organization. The user can then modify the assets values and fill-in the required field of CRQ ticket in order to create CRQ ticket with assets change details. After CRQ ticket has been approved, the user who has permission to edit the asset in the production's orchestrator can click the migrate asset button in MTP Portal, which will migrate the asset to the production's orchestrator and close that particular CRQ ticket.

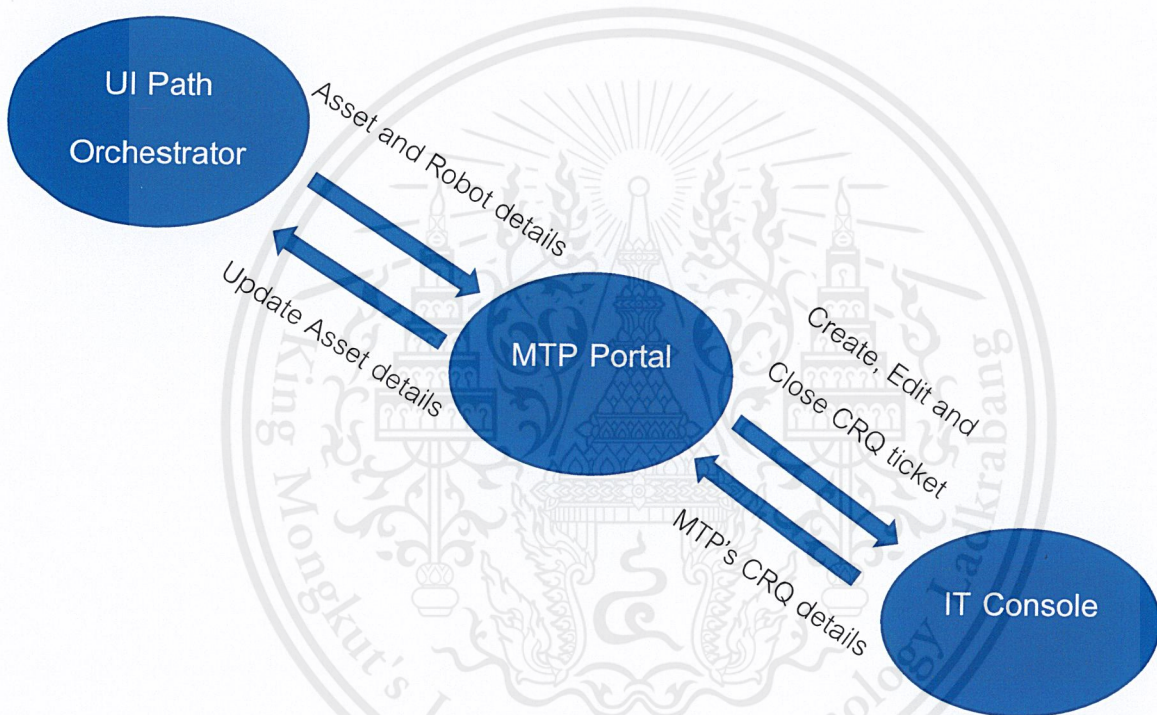


Figure 3.1 MTP Portal relation with UI Path Orchestrator and IT Console API

Before I finished cooperative education, the assets feature was finalized. Therefore, we can now see what the MTP Portal Asset feature can do.

Figure 3.2 shows usages of MTP Portal on service team and developer users. For developers, they can view asset that filtered by the organization that they have permission to

choose. They can select assets that will be move to production then go through view summary page that contain view summary table , add request summary , add approver , add change coordinator and add change manager. After fill all boxes they can create CRQ ticket. When finish create CRQ ticket service teams and developers can view <MTP> CRQ ticket information on MTP Portal but service teams are only role that can update assets to orchestrator production and close CRQ tickets

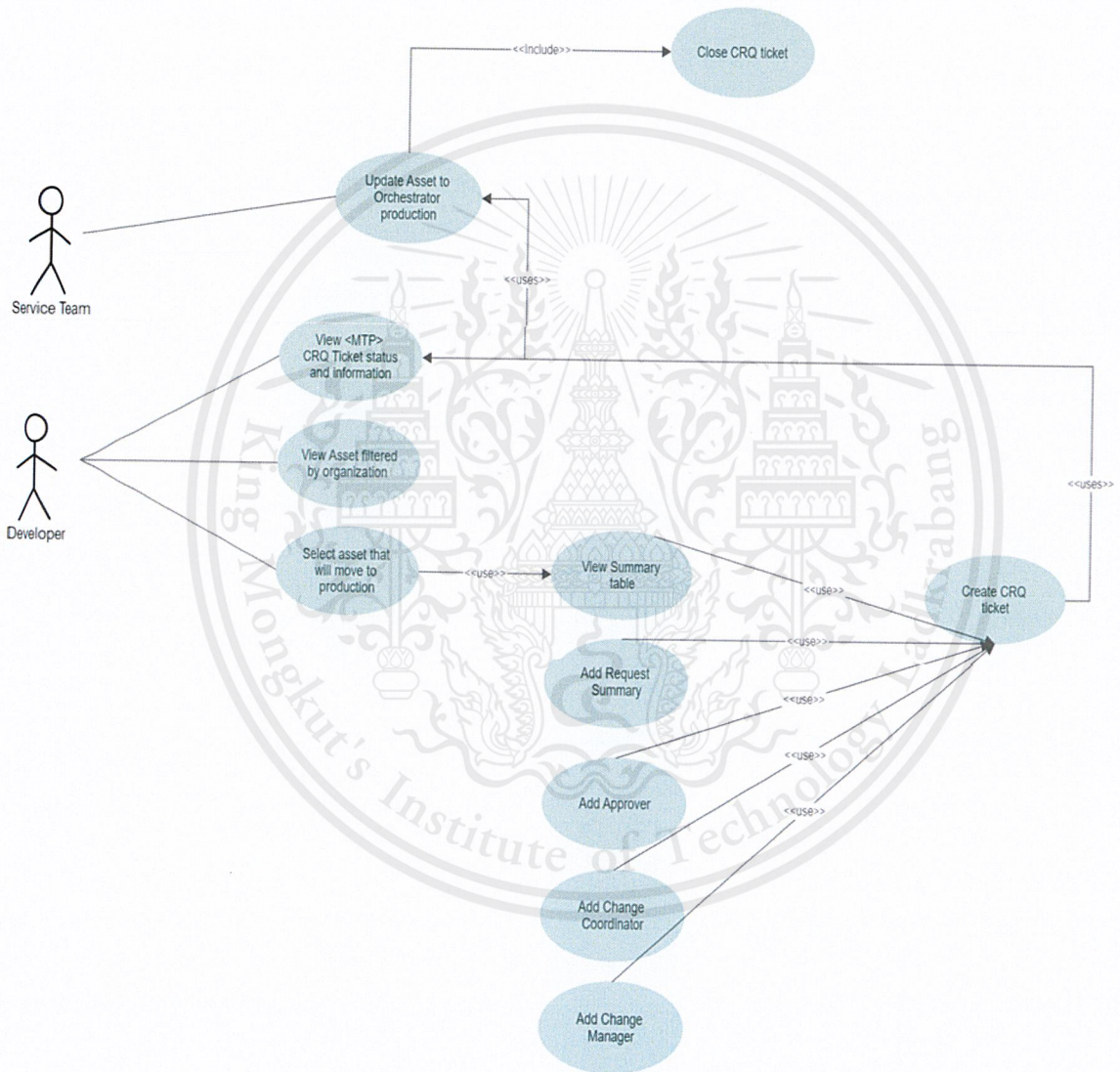


Figure 3.2 MTP Portal Asset Feature use case diagram

Chapter 4

Result

In this chapter, we will discuss user experience for the assets feature on MTP Portal.

In the old Move To Production process, an excel file (Figure 4.1 Old MTP form) was used to store assets details, as demonstrated in Figure 4.2. It was easy to make mistakes while looking at details and typing in the values.

Org Unit	FLCSBKK
Change/Update/Create	Yes/No
Process	Yes
Assets	No
Create Folder	No
Schedule	No
Queue	No
Deploy Files	No

Figure 4.1 Old MTP form

Assets

RACE

SELECT ALL	ASSET NAME	VALUE ACC	VALUE PROD	TYPE
+	ACME_Credential	user:me@mycorp.com		Credential
+	FLCSBKK_Accounts_AccountMaintenance...	user:me@mycorp.com	user:me@mycorp.com	Credential
+	NA_Rail_Freight_TableUpload_AddressFilter	user:me@mycorp.com		Text
+	NA_Rail_Freight_TableUpload_CommodityS...			Text
+	NA_Rail_Freight_TableUpload_defaultMailbox	user:me@mycorp.com		Text

Items per page: 5

Previous 1 2 3 4 5 Next

Figure 4.3 Asset Selection table

This MTP Portal is not official. Only able to add new asset but cannot change!

Hello, Worontha

MTP Portal

New request View requests

BSA
 CHCSCUR
 CHLDGBL
 CHSCMON
 CSMS
 FLCSBKK
RACE

RACE_MTPPortalExportOil

SELECT ALL	ASSET NAME	VALUE ACC	VALUE PROD	TYPE
+	RACE_MTPPortalExportOil_AccountantName	Grace W.	Grace W.	Text
+	RACE_MTPPortalExportOil_InboxAccount	user:me@mycorp.com	user:me@mycorp.com	Credential
+	RACE_MTPPortalExportOil_InfosChanged	True	True	Bool
+	RACE_MTPPortalExportOil_Name	Alexandra H.	Alexandra H.	Text
+	RACE_MTPPortalExportOil_StockCount	64	64	Integer

Items per page: 5

Previous 1 Next

Figure 4.4 Select Organization name

The user then select the assets that they want to migrate to orchestrator production (Figure 4.7). They can use the search filter (Figure 4.6) in the Asset Selection table to search asset by name, value or type. In each column if it can't display all text user can hover mouse to see full text of particular column (Figure 4.5).

Assets

SELECT ALL	ASSET NAME	VALUE ACC	VALUE PROD	TYPE
+	RACE_MTPPortalExportOil_AccountantName	Grace W.	Grace W.	Text
+	RACE_MTPPortalExportOil_ConfigAccount	[Value per robot]		Text
+	RACE_MTPPortalExportOil_InboxAccount	username: username, password: password	username: username, password: password	Credential
+	RACE_MTPPortalExportOil_InfolsChanged	True	True	Bool
+	RACE_MTPPortalExportOil_Name	Alexandra H.	Alexandra H.	Text
+	RACE_MTPPortalExportOil_StockCount	64	64	Integer

Figure 4.5 Ellipsis Asset value

Assets

SELECT ALL	ASSET NAME	VALUE ACC	VALUE PROD	TYPE
+	RACE_MTPPortalExportOil_AccountantName	Grace W.	Grace W.	Text
+	RACE_MTPPortalExportOil_ConfigAccount	[Value per robot]		Text
+	RACE_MTPPortalExportOil_InboxAccount	username: username, password: password	username: username, password: password	Credential
+	RACE_MTPPortalExportOil_InfolsChanged	True	True	Bool
+	RACE_MTPPortalExportOil_Name	Alexandra H.	Alexandra H.	Text
+	RACE_MTPPortalExportOil_StockCount	64	64	Integer

Figure 4.6 Search filter

Assets

RACE ▼ RACE_MTPPortalExportOil

SELECT ALL	ASSET NAME	VALUE ACC	VALUE PROD	TYPE
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_AccountantName	Grace W	Grace W	Text
<input type="checkbox"/>	RACE_MTPPortalExportOil_ConfigAccount	[Value per robot]		Text
		<input type="button" value="Hide"/>		
		Patom_Bot Patom S.		
		Varis_Test Varis K.		
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_InboxAccount			Credential
<input type="checkbox"/>	RACE_MTPPortalExportOil_IsInfoChanged	True	True	Bool
<input type="checkbox"/>	RACE_MTPPortalExportOil_Name	Alexandra H	Alexandra H	Text
<input type="checkbox"/>	RACE_MTPPortalExportOil_StockCount	54	54	Integer

Figure 4.7 Select some assets

It will then appear in the Asset Selection table, located at the lower part of the page (Figure 4.8). In this table, the users can edit the asset values and add new or delete robot values, if asset scope is "ValuePerRobot" (Figure 4.10).

Selected Assets

RACE ▼

	ASSET NAME	VALUE	TYPE	ENVIRONMENT
<input type="checkbox"/>	RACE_MTPPortalExportOil_Acc...	<input type="text" value="Grace W."/>	Text	Production
<input type="checkbox"/>	RACE_MTPPortalExportOil_Info	Username: <input type="text"/>	Credential	Production

Figure 4.8 Selected assets in Assets Selection Table

If the users want all the assets in this page, MTP Portal also provides a select button (Figure 4.9).

Assets

RACE ▼ RACE_MTPPortalExportOil

CLEAR SUCCESS	ASSET NAME	VALUE ACC	VALUE PROD	TYPE
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_AccountantName	Grace W	Grace W	Text
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_ConfigAccount	[Value per robot] Show ▶		Text
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_InboxAccount			Credential
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_InfoIsChanged	True	True	Bool
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Name	Alexandra H	Alexandra H	Text
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_StockCount	64	64	Integer

Figure 4.9 Select all assets in the particular page

Selected Assets

RACE ▼

	ASSET NAME	VALUE	TYPE	ENVIRONMENT
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Acc...	Phison K.	Text	Production
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Inbox...	Username	Credential	Production
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Conf...	+ Add J KCRPADTTN008 ▼ Neramit S. <input checked="" type="checkbox"/> A7 TPASANTFEST01 ▼ Supawit P. <input checked="" type="checkbox"/>	Text	Acceptance
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Info...	<input type="radio"/> True <input checked="" type="radio"/> False	Bool	Production
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Name	John R.	Text	Production
<input checked="" type="checkbox"/>	RACE_MTPPortalExportOil_Stock...	58	Integer	Production

Figure 4.10 Asset selected from select all button

In the Asset Selection table, the users can change the organization to migrate (Organization in Production's Orchestrator) (Figure 4.11).

ASSET NAME	VALUE	TYPE	ENVIRONMENT
RACE_MTPPartialExportOI_Acc...	Grace W.	Text	Production
RACE_MTPPartialExportOI_Conf	<input type="button" value="+ Add"/> IOCRPADTTN013_34 Petom S. IOCRPADTTN013_34 Varis K.	Text	Acceptance
RACE_MTPPartialExportOI_Line...	Username	Credential	Production
RACE_MTPPartialExportOI_Infol...	<input checked="" type="radio"/> True <input type="radio"/> False	Bool	Production
RACE_MTPPartialExportOI_Line...	Alexandra H.	Text	Production
RACE_MTPPartialExportOI_Stoc...	64	Integer	Production

Figure 4.11 Select organization to migrate

After the users finished editing the assets value, they must click on the next button (Figure 4.12) to proceed to the summary page.

Selected Assets

ASSET NAME	VALUE	TYPE	ENVIRONMENT
RACE_MTTPortalExportOil_Acc...	Phison K.	Text	Production
RACE_MTTPortalExportOil_Conf...	<input type="button" value="+ Add"/>	Text	Acceptance
	<input type="text" value="HOERPADFTN008"/> <input type="text" value="Neramit S."/> <input type="button" value="↑"/>		
	<input type="text" value="AZ-RPASANTEST001"/> <input type="text" value="Supawit P."/> <input type="button" value="↑"/>		
RACE_MTTPortalExportOil_Inbo...	Username: <input type="text" value=""/>	Credential	Production
RACE_MTTPortalExportOil_Infol...	<input type="radio"/> True <input checked="" type="radio"/> False	Bool	Production
RACE_MTTPortalExportOil_Name	John R.	Text	Production

Items per page:

Previous Next

Figure 4.12 Next button for proceed to the summary page

The application will then proceed to the summary page (Figure 4.13).

Summary

Assets

ASSET NAME	VALUE	TYPE	ENVIRONMENT
RACE_MTPPortalExportOil_Acc...	Phison K.	Text	Production
RACE_MTPPortalExportOil_Conf...	[Value per robot]	Text	Acceptance
Show ▶			
RACE_MTPPortalExportOil_Inbo...	username: [redacted]	Credential	Production
RACE_MTPPortalExportOil_Infol...	False	Bool	Production
RACE_MTPPortalExportOil_Name	John R.	Text	Production

Items per page:
 ▼

◀ Previous 1 2 Next ▶

Request Summary

RACE- AssetChange

Approver

Approver 1 :

Change coordinator

Change manager

[Submit](#) [Back](#)

Figure 4.13 Summary page

This page (Figure 4.13) contains the asset summary table (Figure 4.14). Asset summary table displays the final asset name, value and type, which will migrate to production's orchestrator. Summary page also create the necessary CRQ ticket field (Figure 4.15) details used for generating CRQ.

Summary


Assets

ASSET NAME	VALUE	TYPE	ENVIRONMENT
RACE_MTPPortalExportOil_Acc...	Phison K.	Text	Production
RACE_MTPPortalExportOil_Cont	[Value per robot]	Text	Acceptance
	Hide ▼		
	HOERPADFTN008 : Neramit S.		
	AZ-RPASANTEST001 : Supawit P.		
RACE_MTPPortalExportOil_Info...	username: [redacted]	Credential	Production
RACE_MTPPortalExportOil_Infol...	False	Bool	Production
RACE_MTPPortalExportOil_Name	John R	Text	Production
RACE_MTPPortalExportOil_Stoc...	98	Integer	Production

Figure 4.14 Summary table

Request Summary

RACE-AssetChange-MTPPortalExportOilTest

Approver 

Approver 1 :

Approver 2 :

Approver 3 :

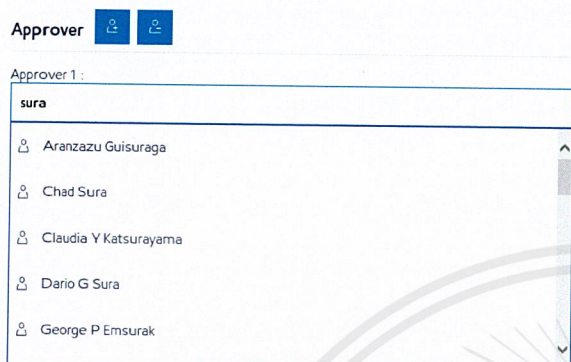
Approver 4 :

Change coordinator

Change manager

Figure 4.15 Necessary CRQ required field

The CRQ required fields are Request Summary, Approver, Change Coordinator and Change manager. MTP Portal also checks whether the users have filled in all the fields correctly, for instance, the Approver cannot be the same person as Change Coordinator (Figure 4.22).



The screenshot shows a form field labeled "Approver" with two user selection icons. Below it, a dropdown menu is open, showing a search bar with the text "sura" and a list of five users: Aranzazu Guisuraga, Chad Sura, Claudia Y Katsurayama, Dario G Sura, and George P Emsurak. Each user name is preceded by a small person icon.

Figure 4.16 Select approvers

Figure 4.16 shows approver's selection. If name of an approver not exist the program will show invalid sign below the approver's box (Figure 4.17).

Request Summary

RACE- AssetChange-MTPPortalExportOilTest

Approver

Approver 1 :

Phisonk

Invalid contact !

Change coordinator

Robotics Automation Center of Expertise

Valid group

Chaloemchai (Aum) Thanetanukun

Valid user

Change manager

Robotics Automation Center of Expertise

Valid group

Chaloemchai (Aum) Thanetanukun

Valid user

Submit

Back

Figure 4.17 Invalid approver

Request Summary

RACE- AssetChange

Approver



Approver 1 :

Select a person

* Requester can't be an approver

Change coordinator

Select a group

Select a person

Change manager

Select a group

Select a person

Submit

Back

Figure 4.18 Requester cannot be an approver

To cope with security the requester can't be an approver (Figure 4.18).

Request Summary

RACE- AssetChange-MTPPortalExportOilTest

Approver



Approver 1 :

Phison Khankhang

Valid contact

Change coordinator

- Robotics
- Financial Robotics Process Automation (Applications-Financial)
- Robotics Automation Center of Expertise (Applications-Technical Services)**
- Robotics Automation CoE-Celonis (Applications-Technical Services)

Select a person

Change manager

Select a group

Select a person

Submit

Back

Figure 4.19 Select IT Console group

The mechanism of selecting Change Coordinator or Change Manager are likely the same. First, The user have to search and select IT Console group in “select a group” box (Figure 4.19). Then the program will query names in IT console system that have role upon which box they search and display that names as option dropdown list below the box next to this box (Figure 4.20).

Change coordinator

Robotics Automation Center of Expertise

Valid group

Change manager

Robotics Automation Center of Expertise

Valid group

Submit Back

Alex Weber

Amanda Mendes Simoni

Bruno R Sella

Chaloechai (Aum) Thanetanukun

Felipe M Santos

Figure 4.20 Select change coordinator

Request Summary

RACE- AssetChange-MTPPortalExportOilTest

Approver

Phison Khankhang

Valid contact

Change coordinator

Robotics Automation Center of Expertise

Valid group

Change manager

Robotics Automation Center of Expertise

Valid group

Submit Back

Chaloechai

Invalid user 1

Chaloechai (Aum) Thanetanukun



Invalid user

Figure 4.21 Invalid change coordinator

User can search in select a person box after the dropdown list appeared (Figure 4.20). If search name not match with any person in the dropdown list the program will show warning message (Figure 4.21) below the box.

Request Summary

RACE-AssetChange

Approver  

Approver 1 :
Phison Khankhang
Valid contact

Change coordinator

Robotics Automation Center of Expertise Valid group
* Change coordinator can't be an approver



Change manager

Submit [Back](#)

Figure 4.22 Change coordinator cannot be an approver

Request Summary

RACE-AssetChange-MTPPortalExportOilTest

Approver  

Approver 1 :
Phison Khankhang
Valid contact

Change coordinator

Robotics Automation Center of Expertise Valid group
Valid user

Change manager

Robotics Automation Center of Expertise Valid group
Valid user

Submit [Back](#)

Figure 4.23 All necessary CRQ field filled

Once all the necessary fields have been completed (Figure 4.23), the submit button will be enabled. Now the users can submit the request in the CRQ ticket and wait for the approval.

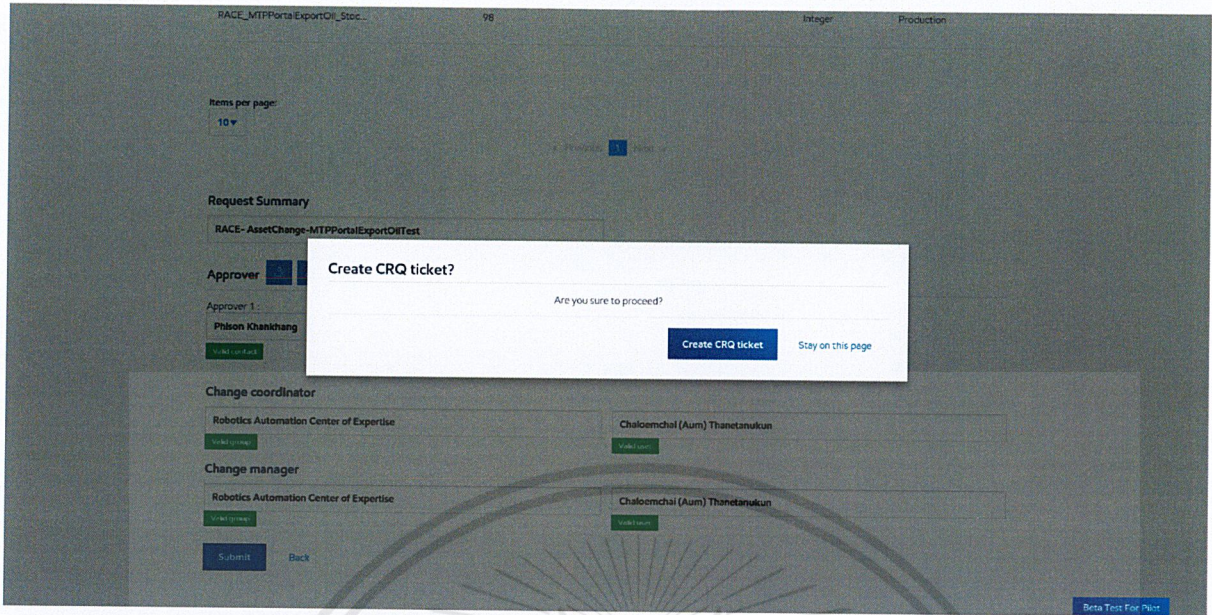


Figure 4.24 Do you want to proceed to create CRQ ticket?

After clicking the create CRQ ticket button in Figure 4.24, MTP Portal will display a loading icon while it is creating the CRQ ticket (Figure 4.25). When it is finished, MTP Portal will redirect to the CRQ ticket's IT Console page (Figure 4.26).



Figure 4.25 Loading the creation of CRQ ticket

<MTP_Portal>RACE- AssetChange- MTPPortalExportOilTest

Scheduled For Approval

Scheduled Dec 12 2019 at 01:29 PM **Class** Expedited
End Dec 14 2019 at 01:29 PM **Reason** Upgrade

Scheduled For Approval
x 1 Pending Approvals on Review

LOW RISK + TAG

Notes

[Work Details](#)

[Approvals](#)

[Tasks](#)

[Relationships](#)

Last Modified
Dec 12 2019 at 01:29 PM

Last Modified By
Woranitha Hueghansombat (ap/wbhuegha)

Notes

Name: RACE_MTPPortalExportOil_AccountantName
Value: Phison K.
ValueType: Text

Name: RACE_MTPPortalExportOil_ConfigAccount
Value: [Value per robot]...
[Read More](#)

Work Details (2)

New Work Detail

Status Transition: Draft > Request For Authorization > Request For Change > Planning In Progress > Scheduled For Review > Scheduled For Approval > Scheduled > Implementation In Progress > Completed > Closed

Woranitha Hueghansombat

Dec 12 at 01:29 PM

Figure 4.26 CRQ ticket has been created

Notes

[Work Details](#)

[Approvals](#)

[Tasks](#)

[Relationships](#)

Last Modified
Dec 12 2019 at 01:29 PM

Last Modified By
Woranitha Hueghansombat (ap/wbhuegha)

Notes

Name: RACE_MTPPortalExportOil_AccountantName
Value: Phison K.
ValueType: Text

Name: RACE_MTPPortalExportOil_ConfigAccount
Value: [Value per robot]...
ValueType: Text

Name: RACE_MTPPortalExportOil_InboxAccount
Value: [Value per robot]...
ValueType: Credential

Name: RACE_MTPPortalExportOil_IsInitialChanged
Value: False
ValueType: Bool

Name: RACE_MTPPortalExportOil_Name
Value: John R.
ValueType: Text

Name: RACE_MTPPortalExportOil_StockCount
Value: 98
ValueType: Integer
[Hide/ Less](#)

Coordinator

Chaloemchai (Aum) Thanetanukun
Robotics Automation Center of Expertise

Change Manager

Chaloemchai (Aum) Thanetanukun

Documents

Backout Plan (0) [View All](#)
How to restore a system's previous state

Install Plan (0) [View All](#)
How to install/perform this change

Test Plan (0) [View All](#)
How to assure the change was successful

Coordinator

Chaloemchai (Aum) Thanetanukun
Robotics Automation Center of Expertise

Change Manager

Chaloemchai (Aum) Thanetanukun

Documents

Backout Plan (0) [View All](#)
How to restore a system's previous state

Install Plan (0) [View All](#)
How to install/perform this change

Test Plan (0) [View All](#)
How to assure the change was successful

► **Categorization**

► **Additional Details**

Figure 4.27 Assets details in CRQ ticket note

In CRQ ticket created by MTP Portal , It mainly contains readable assets details in CRQ ticket note (Figure 4.27) and assets details for the portal in work detail (Figure 4.28). Also approvers in approvals field (Figure 4.30).

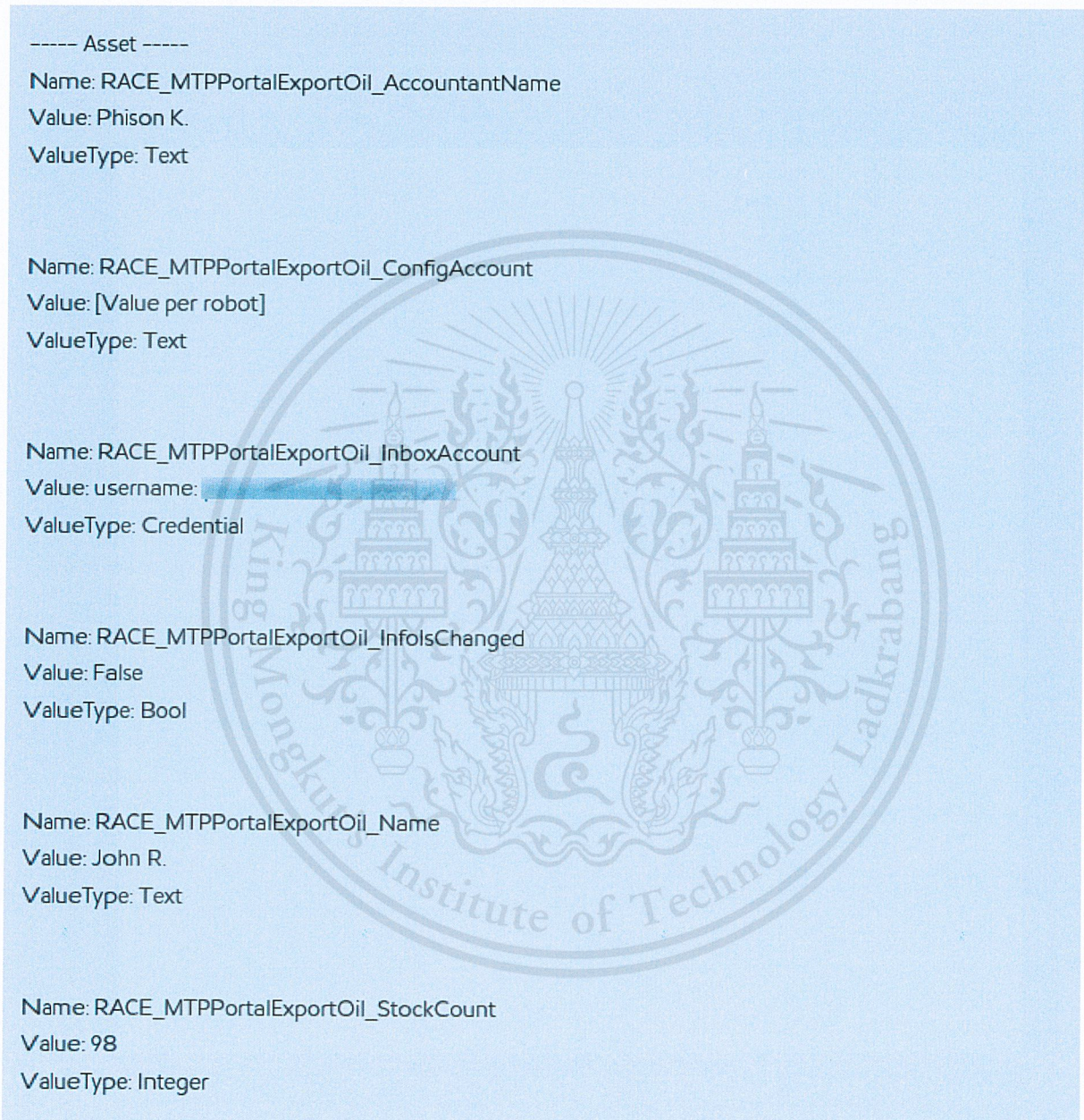


Figure 4.28 Assets details in CRQ ticket work detail

----- Details for MTP Portal -----

```
[{"Name":"RACE_MTPPortalExportOil_AccountantName","CanBeDeleted":true,"ValueScope":"Global","ValueType":"Text","Value":"Phison K.,"StringValue":"Grace W.,"BoolValue":false,"IntValue":0,"CredentialUsername":"","CredentialPassword":"","Id":6003,"KeyValueList":[],"RobotValues":[],"environment":"Production","isExpanded":false,"isChecked":true},{"Name":"RACE_MTPPortalExportOil_ConfigAccount","CanBeDeleted":true,"ValueScope":"PerRobot","ValueType":"Text","Value":"[Value per robot]","StringValue":null,"BoolValue":false,"IntValue":0,"CredentialUsername":null,"CredentialPassword":null,"Id":6037,"KeyValueList":[],"RobotValues":[{"RobotId":27,"RobotName":"HOERPADFT-N008","KeyTrail":"***0e2c1fc","ValueType":"Text","StringValue":"Patom S.,"BoolValue":false,"IntValue":0,"Value":"Neramit S.,"CredentialUsername":"","CredentialPassword":"","Id":6337,"KeyValueList:[],"RobotId":29,"RobotName":"AZ-RPASANTEST001","KeyTrail":"***766c027","ValueType":"Text","StringValue":"Varis K.,"BoolValue":false,"IntValue":0,"Value":"Supawit P.,"CredentialUsername":"","CredentialPassword":"","Id":6338,"KeyValueList:[]}],"environment":"Acceptance","isExpanded":true,"isChecked":true},{"Name":"RACE_MTPPortalExportOil_InboxAccount","CanBeDeleted":true,"ValueScope":"Global","ValueType":"Credential","Value":"username : [REDACTED]","StringValue":"","BoolValue":false,"IntValue":0,"CredentialUsername":"[REDACTED]","CredentialPassword":"","Id":6004,"KeyValueList":[],"RobotValues":[],"environment":"Production","isExpanded":false,"isChecked":true},{"Name":"RACE_MTPPortalExportOil_InfoIsChanged","CanBeDeleted":true,"ValueScope":"Global","ValueType":"Bool","Value":"False","StringValue":"","BoolValue":true,"IntValue":0,"CredentialUsername":"","CredentialPassword":"","Id":6005,"KeyValueList":[],"RobotValues":[],"environment":"Production","isExpanded":false,"isChecked":true},{"Name":"RACE_MTPPortalExportOil_Name","CanBeDeleted":true,"ValueScope":"Global","ValueType":"Text","Value":"John R.,"StringValue":"Alexandra H.,"BoolValue":false,"IntValue":0,"CredentialUsername":"","CredentialPassword":"","Id":6006,"KeyValueList":[],"RobotValues":[],"environment":"Production","isExpanded":false,"isChecked":true},{"Name":"RACE_MTPPortalExportOil_StockCount","CanBeDeleted":true,"ValueScope":"Global","ValueType":"Integer","Value":98,"StringValue":"","BoolValue":false,"IntValue":64,"CredentialUsername":"","CredentialPassword":"","Id":6007,"KeyValueList":[],"RobotValues":[],"environment":"Production","isExpanded":false,"isChecked":true}],{"DisplayName":"RACE","Id":6}]
```

[Read Less](#)

Woranitha Hueghansombat



Dec 12 at 01:29 PM

Figure 4.29 Assets details for MTP Portal in CRQ ticket work detail

Approvals (1)

Log

Implementation

Phison Khankhang

PENDING

Dec 12 at 01:29 PM

Hide past approvals

Figure 4.30 An approver in CRQ ticket

Ticket List

TYPE	TICKET	SUMMARY	STATUS	ASSIGNEE	SUBMITTED
CRQ	CRQ000000815111	<MTP_Portal>RACE- AssetChange-MTPPortalExportOilTest + TAG	Scheduled...	Chaloemchai (...)	Dec 12, 01:29 PM
WO	WO0000015654387	[BULK] Please add these groups to RPA ORCHESTRATOR ALLUG + TAG	Assigned	Unassigned	Dec 06, 12:38 AM
WO	WO0000015654478	test + TAG	Assigned	Jonasta J Dos	Dec 05, 10:49 PM
WO	WO0000015650047	Server SW: Back Office Robot: 2018 4 4 Modules Selected + TAG	Assigned	Unassigned	Nov 29, 06:52 PM
WO	WO0000015650483	Please connect RPAFLCSIP042_TEST3 HOERPADFP0165 to 2017 + TAG	Assigned	Bruno R Sella	Nov 29, 06:32 PM
WO	WO0000015650176	FLCSIND_Account_Reactivation_Fuels_NASA + TAG	Assigned	Surawadee Ta...	Nov 29, 06:16 PM

Figure 4.31 MTP Portal's CRQ display in IT Console

After the users have successfully created the CRQ (Figure 4.31), they can track their ticket by using MTP Portal view request page (Figure 4.32) that has MTP Portal's CRQ ticket filter by user IT Console group. The user can also search by assignee name. Furthermore, the users can also cancel their unwanted ticket by clicking on the bin icon located in the last column of the ticket rows.

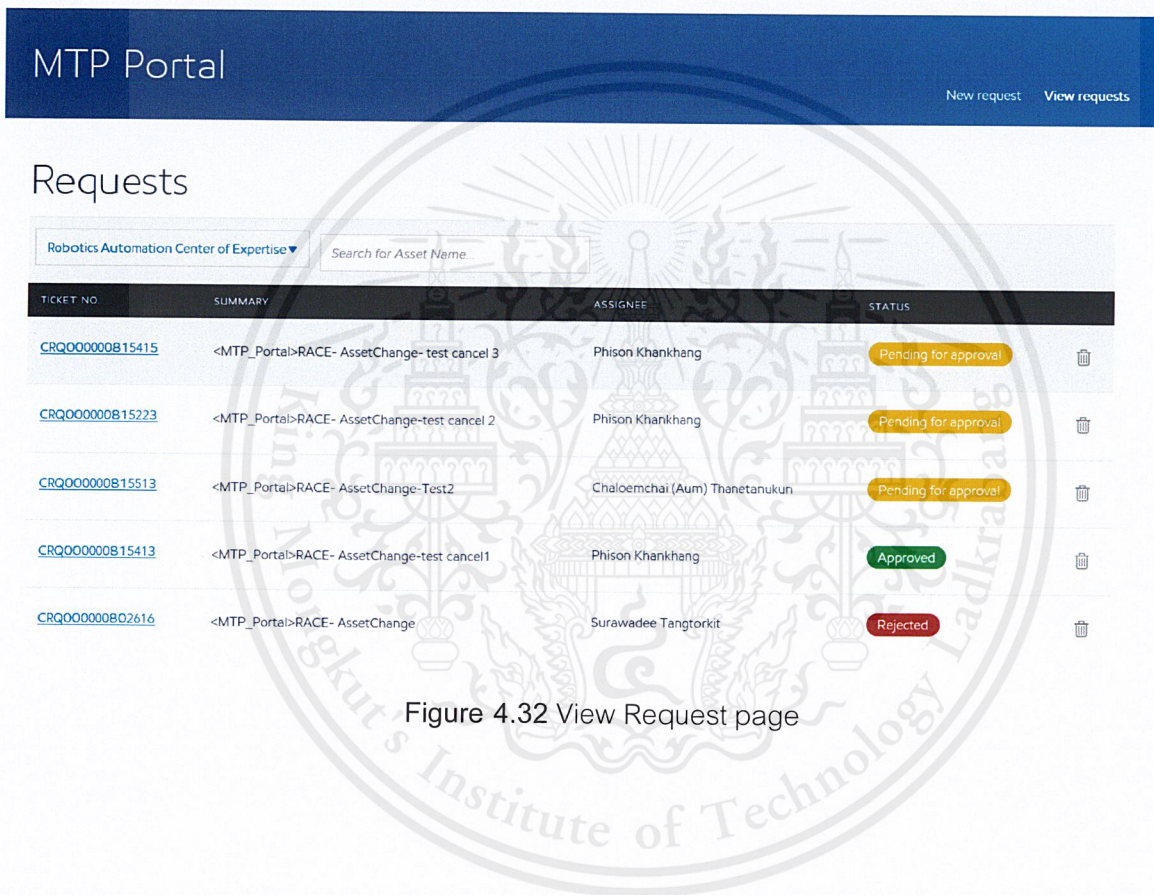


Figure 4.32 View Request page

Assets

ASSET NAME	VALUE	TYPE
RACE_MTPPortalExportOj_AccountantName	Phison K.	Text
RACE_MTPPortalExportOj_ConfigAccount	[Value per robot] Show ▶	Text
RACE_MTPPortalExportOj_InboxAccount	username: <input type="text"/> Password: <input type="password"/>	Credential
RACE_MTPPortalExportOj_InfolsChanged	False	Bool
RACE_MTPPortalExportOj_Name	John R.	Text
RACE_MTPPortalExportOj_StockCount	98	Integer

[Update in orchestrator](#) [Back](#)

Figure 4.34 Before fill the credential password

Assets

ASSET NAME	VALUE	TYPE
RACE_MTPPortalExportOj_AccountantName	Phison K.	Text
RACE_MTPPortalExportOj_ConfigAccount	[Value per robot] Show ▶	Text
RACE_MTPPortalExportOj_InboxAccount	username: <input type="text"/> Password: <input type="password"/>	Credential
RACE_MTPPortalExportOj_InfolsChanged	False	Bool
RACE_MTPPortalExportOj_Name	John R.	Text
RACE_MTPPortalExportOj_StockCount	98	Integer

[Update in orchestrator](#) [Back](#)

Figure 4.35 After fill the credential password

After filling in all the credential passwords (Figure 4.35), it is time to migrate, by clicking on update in the orchestrator then waiting on loading screen (Figure 4.36). MTP Portal will migrate assets change to UI Path Production's Orchestrator of the organization end point (See changes in Figure 4.39, 4.40, 4.41, 4.42, 4.43) that the user has selected in selected table.

The CRQ ticket will then be closed (Figure 4.38). When it success the program will approached like (Figure 4.37).



Figure 4.36 Loading update asset

This MTP Portal is not official. Only able to add new asset but cannot change!


Hello, Woranitha

MTP Portal [New request](#) [View requests](#)

CRQ00000815111 COMPLETED MOVING 🕒 complete updating in orchestrator & This ticket is closed. [Close](#)

Approvals

✔ APPROVED

 Phison Khankhang

Notes

Name: RACE_MTPPortalExportOil_AccountantName
Value: Phison K.
ValueType: Text

Name: RACE_MTPPortalExportOil_ConfigAccount
Value: [Value per robot]
ValueType: Text

Assets

ASSET NAME	VALUE	TYPE
RACE_MTPPortalExportOil_AccountantName	Phison K.	Text
RACE_MTPPortalExportOil_ConfigAccount	[Value per robot]	Text

[Show ▶](#)

Figure 4.37 After assets updated and CRQ ticket closed

IT Console

Tickets Kanban Tools Create Reports

Home Ticket List Options

Ticket List Use Quick Filters Manage Cards

5 Critical/High My Group's 14 Unassigned My Group's 17 Incidents My Group's 60 Work Orders My Group's 13 Change Requests My Group's

My Queue Group Queue Closed Tickets

Type	Ticket	Summary	Status	Assignee	Submitted
CRQ	CRQ000000815111	<MTP_Portal>RACE- AssetChange-MTPPortalExportOITest	Completed	Chaloemchai (...)	Dec 12, 01:29 PM
CRQ	CRQ000000815008	<MTP_Portal>RACE- AssetChange-TestFinal1	Completed	Chaloemchai (...)	Dec 11, 10:44 AM
WO	WOO000015655383	test - Robotics Automation Center of Expertise	Completed	Mei Chuen Ong	Dec 09, 06:42 PM
WO	WOO000015654696	test - Robotics Automation Center of Expertise	Completed	Unassigned	Dec 09, 08:09 AM

Figure 4.38 CRQ ticket closed in IT console

UiPath Assets

ROBOTS MACHINES PROCESSES LIBRARIES JOBS SCHEDULES ASSETS QUEUES

NAME	TYPE	VALUE
ACME_Credential	Credential	
FLCSBKK_Accounts_AccountMaintenance_ScamCredententials	Credential	
NA_Rail_Freight_TabletUpload_AddressFilter	Text	
NA_Rail_Freight_TabletUpload_CommoditySeparator	Text	
NA_Rail_Freight_TabletUpload_defaultMailbox	Text	
NA_Rail_Freight_TabletUpload_DeliverNotification	Bool	False
NA_Rail_Freight_TabletUpload_exceptionMail	Text	
NCTLogon	Credential	Username: NCT Grace W.
RACE_MTPPortalExportOIT_AccountantName	Text	
RACE_MTPPortalExportOIT_ConfigAccount	Text	[Value per robot]

Items: 10 Page 1/2 19 items

Figure 4.39 Ui Path Orchestrator before update1

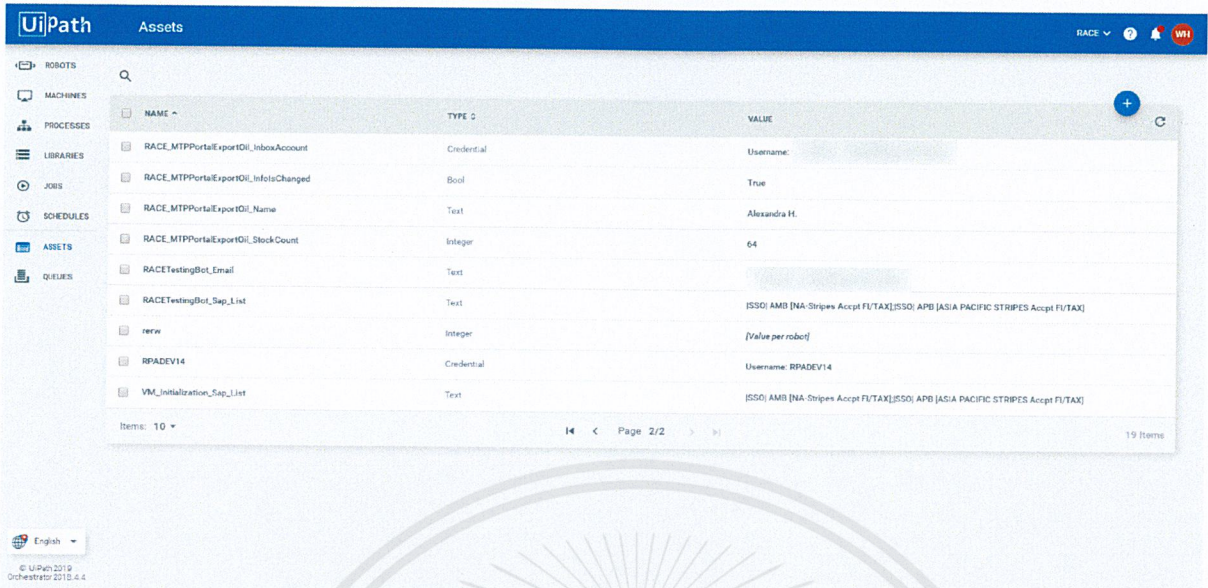


Figure 4.40 Ui Path Orchestrator before update2

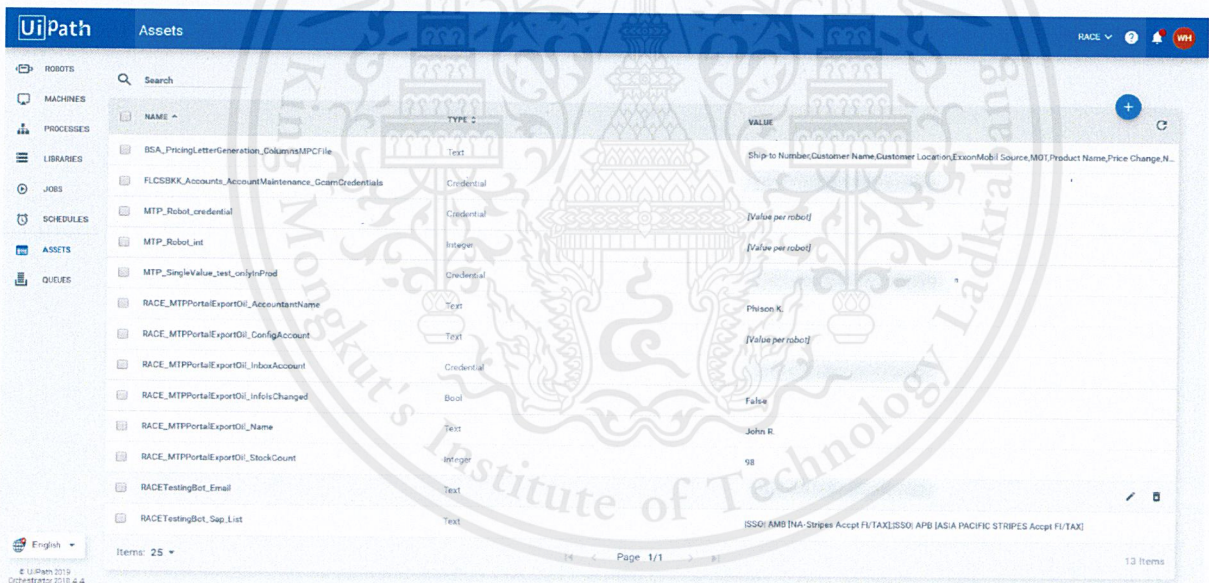


Figure 4.41 Ui Path Orchestrator after update

The screenshot shows the UiPath Audit interface with a table of audit logs. The table has columns for Component, User, Action, Operation, and Time. The logs show various updates and deletions of assets and queues.

COMPONENT	USER	ACTION	OPERATION	TIME
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_InfosChanged	4 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_StockCount	4 minutes ago
Assets	whuegha	Create	User whuegha created asset RACE_MTPPortalExportOil_ConfigAccount	4 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_InboxAccount	4 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_Name	4 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_AccountantName	4 minutes ago
Queues	twittay	Delete	User twittay deleted queue third queue	12 hours ago
Queues	twittay	Delete	User twittay deleted queue second queue create	12 hours ago
Queues	twittay	Delete	User twittay deleted queue create first queue	12 hours ago
Queues	twittay	Create	User twittay created queue third queue	12 hours ago

Figure 4.42 Ui Path Orchestrator audit log1

The screenshot shows the UiPath Audit interface with a table of audit logs. The table has columns for Component, User, Action, Operation, and Time. The logs show updates and a creation of assets by user whuegha.

COMPONENT	USER	ACTION	OPERATION	TIME
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_InfosChanged	3 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_StockCount	3 minutes ago
Assets	whuegha	Create	User whuegha created asset RACE_MTPPortalExportOil_ConfigAccount	3 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_InboxAccount	3 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_Name	3 minutes ago
Assets	whuegha	Update	User whuegha updated asset RACE_MTPPortalExportOil_AccountantName	3 minutes ago

Figure 4.43 Ui Path Orchestrator audit log2

Summary

Asset feature of the MTP Portal has been released. The RPA developers who want to move to production can use this application. The robot script, schedule and queue can also be added in MTP Portal's CRQ ticket, and excel files can be attached. Before I finished the Cooperative Education program, I already had experience with MTP Portal development such as pair-programming implementation, back-log selection, test scenario etc. also, I had to transfer the knowledge to my team members and hold training sessions for users.

Doing the Cooperative Education internship has given me invaluable experience, such as, using agile methodology, cooperating with teammates who have different personalities, improving my presentation skills, providing good feedback "SBI (situation behavior impact)" to others, joining boot camp in order to accelerate my negotiation, debate and collaboration skills, meeting people with good perspectives, encouraging me to become more comfort and confidence to speak out my arguments, which is so much more than I ever expected.



Figure 5.1 SBI section

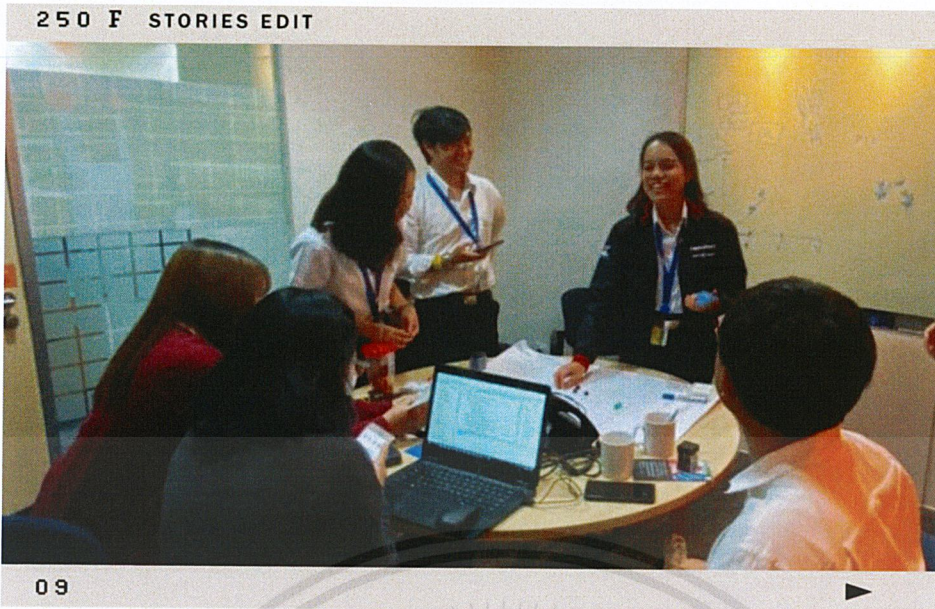


Figure 5.2 Intern meeting



Figure 5.3 Lunch with Tac (Thailand area council)



Figure 5.4 Get together activity



Figure 5.5 Boot Camp 2019



Figure 5.6 Professor visit



Figure 5.7 ExxonMobil IT Open house 2019

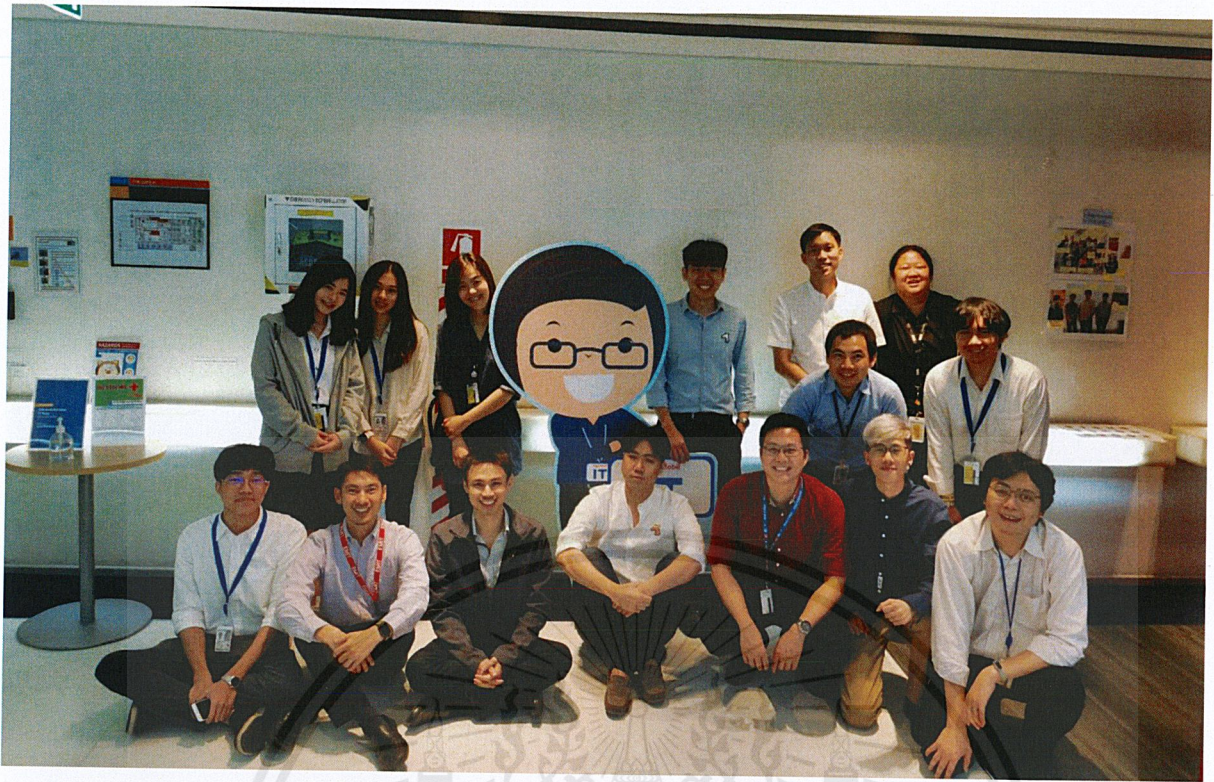


Figure 5.8 Team Photo Group



Figure 5.9 Intern Show

References

- [1] Angular definition (Online) Retrieved from:
[https://en.wikipedia.org/wiki/Angular_\(web_framework\)](https://en.wikipedia.org/wiki/Angular_(web_framework))
- [2] Angular document (Online) Retrieved from: <https://angular.io/docs>
- [3] Angular API (Online) Retrieved from: <https://angular.io/api>
- [4] UiPath definition (Online) Retrieved from: <https://en.wikipedia.org/wiki/UiPath>
- [5] Adobe XD definition and tutorial (Online) Retrieved from:
<https://www.mockplus.com/blog/post/adobe-xd-tutorial>
- [6] UiPath Orchestrator API (Online) Retrieved from:
<https://docs.uipath.com/orchestrator/v2016.2/docs/orchestrator-api-guide>
- [7] IT Console (Online) Retrieved from:
https://en.wikipedia.org/wiki/IT_service_management
- [8] Pluralsight learning web application, Angular learning path (Online) Retrieved from:
<https://www.pluralsight.com/paths/angular>

Appendix A

Angular (web framework):



Figure A.1 Angular icon

Angular referred to as "Angular 2+" or "Angular v2 and above" is an application framework operated by the Angular Team at Google and a community of individuals and corporations. It is a TypeScript-based and open-source application. Angular was rewritten by the same team that built AngularJS.

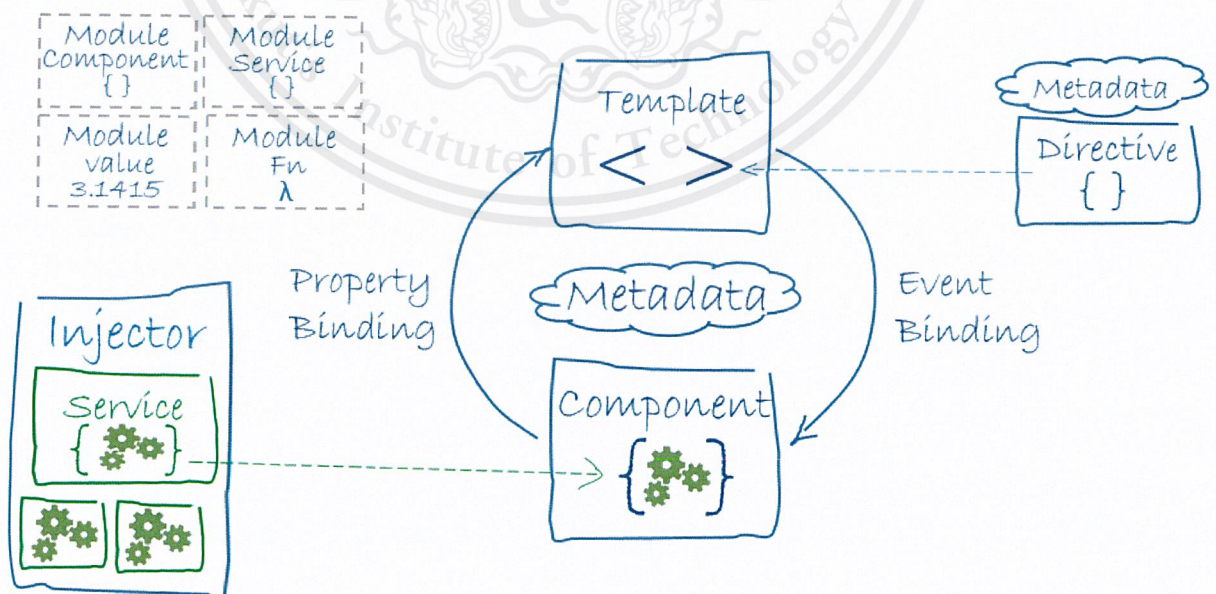


Figure A.2 Architecture of an Angular application

The main building blocks are modules, components, templates, metadata, data binding, directives, services and dependency injection.

-The concept of Angular is neither "scope" nor controllers. In fact, it is used in a hierarchy of components, as its primary architectural characteristic

-Angular has a new expression syntax, focusing on "[]" for property binding, and "()" for event binding

-Modularity – core functionalities moved to modules

-Angular recommends the use of Microsoft's TypeScript language, which introduces the following features:

- Static Typing, including Generics

- Annotations

-TypeScript is most compatible with ECMAScript 6 (ES6) and is backwards compatible with ECMAScript 5 (i.e.: JavaScript)

- Dynamic loading

- Asynchronous template compilations

-Iterative callbacks provided by RxJS. RxJS limits state visibility and debugging, but these can be solved with reactive add-ons like ngReact or ngrx

- Support for Angular Universal, which runs Angular applications on servers

Asset : a variable of robot script(s) in the orchestrator.

CRQ ticket: change request ticket for keeping track of changes in ExxonMobil for auditing purpose.

IT Console: system for tracking ticket in the ExxonMobil, such as, CRQ (change request), WO (work order), INC (incident).

Orchestrator: a configuration tool for Robotics Automation Process (RPA) to configure RPA Robots.

Queue: configure files to queue the robot script in running properly.

Schedule: corn expression assigned to particular robot script to run in the time that is scheduled.

UI Path:



Figure A.3 UI Path logo

A leading Robotic Process Automation vendor providing a complete software platform to help organizations efficiently automate business processes.

UiPath is a global software company that develops a platform for robotic process automation (RPA or RPAAI).

Following its acquisition of both ProcessGold and StepShot in 2019, UiPath has become the first vendor of scale to bring together both process mining and Robotic Process Automation. Per Gartner, the combination of RPA with process mining, AI, machine learning and analytics is best described as hyperautomation.



Biography

Cooperative Title: "MTP Portal"

Student intern name: Phison Khankhang

Faculty: Engineering

Department: School of International and
Interdisciplinary Engineering

Major: Computer Innovation Engineering

Advisor name: Asst.Prof.Dr.Chutimet Srinilta

Mentor name: Mr. Varis Kritpolchai and

Mr. Chalobemchai Thanetanakun

Company: ExxonMobil Limited



Figure B.1 Mr. Phison Khankhang

Mr. Phison Khankhang, 21 years old, born on 19 March 1998 in Bangkok Thailand, has always been interested in the assembly of computer hardware and configuration of software. He participated in a robotics club when he was in high school. After graduating from Bodindecha Sing Singhaseni school, he continued his bachelor's degree in computer innovation engineering at the King Mongkut's Institute of Technology, Ladkrabang. During his university years, he participated in many activities, such as, Hackathon, Startup Thailand, Debate contest and internships abroad. Recently, he completed the cooperative education internship program at ExxonMobil IT Thailand where he worked on the MTP Portal.

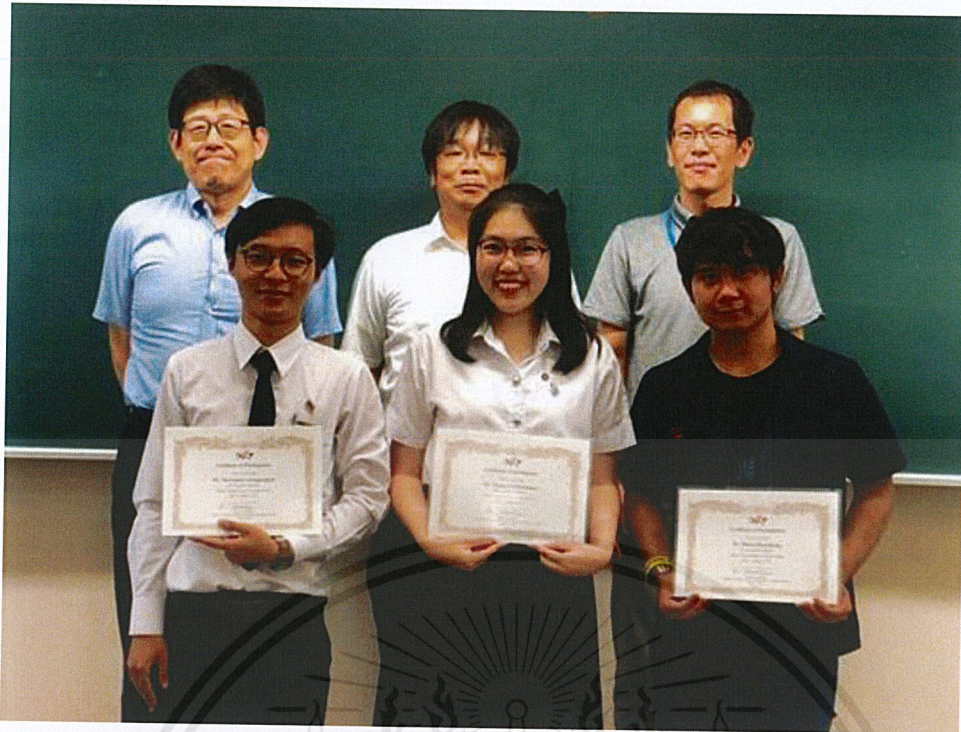


Figure B.4 Intern Aboard



Figure B.5 1st Winner startup Thailand 2018

Further than technology, He also interesting in racing and have a talent on it.



Figure B.6 Booth visit at tech event in Tokyo



Figure B.7 1st Winner best lap dirt (racing game) contest