Linen Management System

Medivest

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Introduction

This document is user guide how to operate mobile reader and pole gantry in Linen Department, Hospital Port Dickson. This guide will be divided into 4 parts Soil Linen, Clean linen, Mobile Reader and Precautions. Details of each part are as below: -

- **Soil Linen**
    - o Interface of Soil Linen Pole Gantry.
    - o Sending Soil Linen to Laundry.

- **Clean Linen**
    - o Interface of Clean Linen Pole Gantry.
    - o Receiving Linen from Laundry.
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- **Mobile Reader**
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    - o Inventory Checking.
    - o Reject Linen.

- **Precautions**
    - o Error message in the system.
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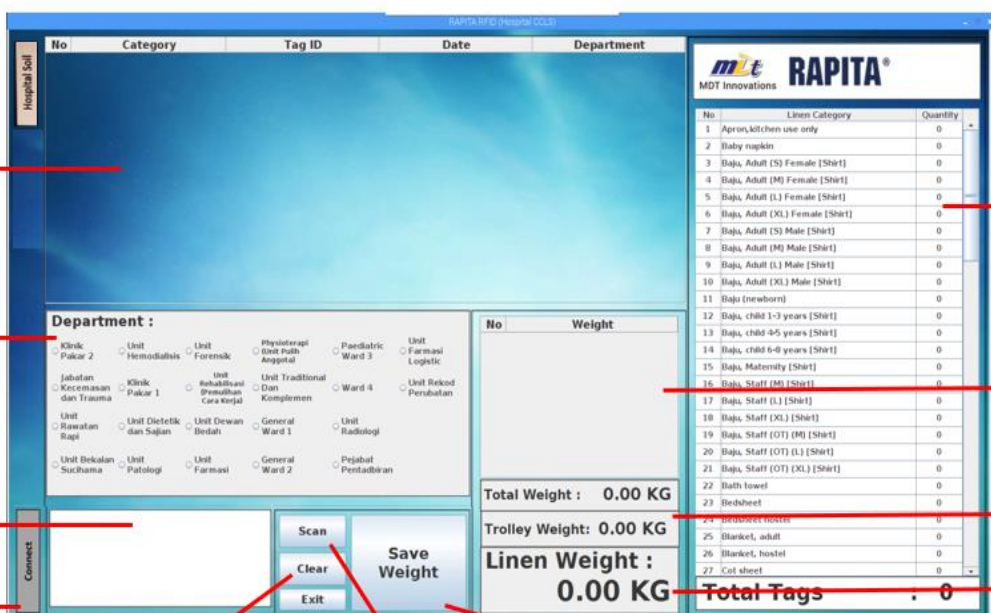**Mobile Reader**   **Pole Gantry**

1.0   Soil Linen

Pole gantry will be used to scan soil linen. Each bag needs to be weight and scan in the system before deliver it to the laundry. Interface of the system for Pole Gantry soil line are as below: -

	For best practice, maximum only 2 bag of soil linen to be weight on the same time.
!	

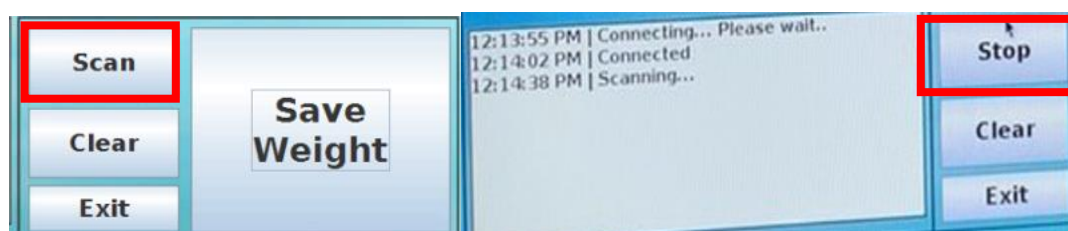Below are steps to scan and upload the data to the cloud.

1. Click on **Connect** button and wait for a while until the status box shown **Connected**.
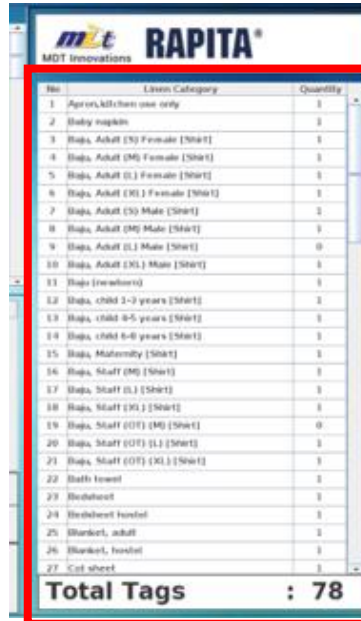

2. Select which department based on the soil linen bag.

3. Load soil linen bag to the weighing scale. Then click on **Scan** button.
The system will start to scan all linen in the bag. Once finished click on the **Stop** button to stop scanning process.

A list of linen will be shown in the system and a Scan Stop status will appear in the status box.

No	Category	Tag ID	Date	Department
1	Curtain, screens, partition	E2801170000002098 4D8C07B	2019-11-21 14:48:44 PM	Klinik Pakar 2
2	Cradle sheet	E2801170000002098 4DA7061	2019-11-21 14:48:44 PM	Klinik Pakar 2
3	Pillowcase, adult	E280117000000209 41BF490B	2019-11-21 14:48:45 PM	Klinik Pakar 2
4	Towel, D & C/Epidural	E28011700000020 95D39FC74	2019-11-21 14:48:45 PM	Klinik Pakar 2
5	Towel, circumcision	E2801170000002098 4E47DC6	2019-11-21 14:48:45 PM	Klinik Pakar 2
6	Wrappers, single/Sheet abdomin...	E2801170000002098 4DA3A2E	2019-11-21 14:48:45 PM	Klinik Pakar 2
7	Baju, Adult (L) Female [Shirt]	E2801170000002098 4DA0257	2019-11-21 14:48:45 PM	Klinik Pakar 2
8	Gown patient, adult	E2801170000002098 4DA9CE2	2019-11-21 14:48:45 PM	Klinik Pakar 2
9	Gown examination, adult	E2801170000002098 4D82DDA	2019-11-21 14:48:45 PM	Klinik Pakar 2
10	Sarong, Adult Male	E2801170000002098 4D9C543	2019-11-21 14:48:45 PM	Klinik Pakar 2
11	Cover, cushion	E2801170000002098 4D82CAC	2019-11-21 14:48:45 PM	Klinik Pakar 2
12	Seluar, Child (6-8 years) (with gu...	E2801170000002098 4DA0264	2019-11-21 14:48:45 PM	Klinik Pakar 2
13	Seluar, Adult Female (S)	E2801170000002098 4D990B5	2019-11-21 14:48:45 PM	Klinik Pakar 2
14	Seluar, Adult Female (M)	E2801170000002098 4D87570	2019-11-21 14:48:45 PM	Klinik Pakar 2

3. Total weight of linen will be shown in the weight box as per below picture.

4. To double check the quantity and type of linen scan, staff can scroll down in summary box on the right corner of the monitor.
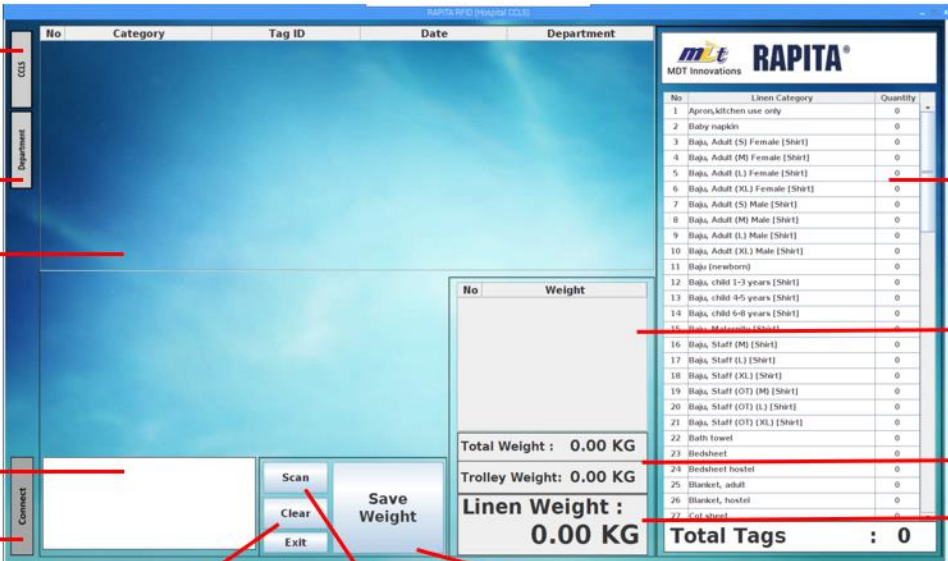

5. After finish scanned all linen. Staff need to click on **Save Weight** Button to upload data to the cloud. **Successfully send to cloud** status will be seen in the status box.
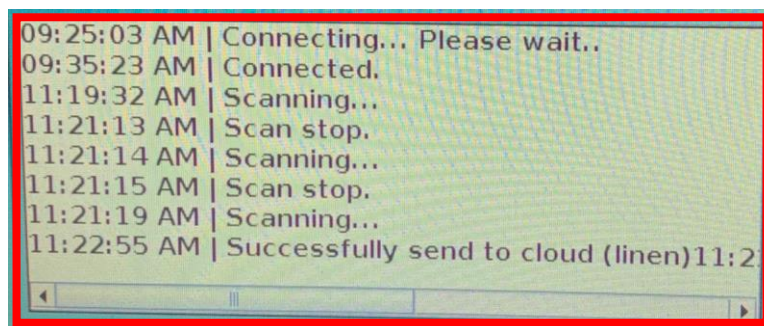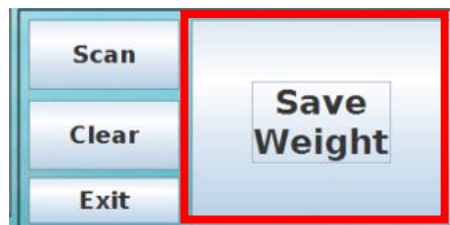
2.0 Clean Linen

- Interface of Clean Linen Pole Gantry

Pole gantry will be used to scan clean linen. There are two process in clean linen pole gantry. Staff will use this gantry once they received clean linen from laundry and when staff want to distribute linen to wards. Below is interface of the system for Pole Gantry clean linen.

CCLS
- Receiving clean linen from laundry

Department
- Distribution linen to ward

List of scanned linen

Status Box
- Show status of data

Connect Button
-For connection to cloud

Summary of Scanned Linen

List of save weight

Weight Box

Linen Weight

Clear Button
-To clear all scanned linen

Scan Button
-To start Scan Linen

Save Weight Button
-To upload the data to cloud

! For best practice, staff will need to click on scan button when the trolley at the yellow line as per picture shown.
This will ensure more accurate data when scanning in progress.

2.1   Receiving Clean Linen

Below are steps to scan clean linen from laundry to **CCLS** (Centralize Clean Linen Store).

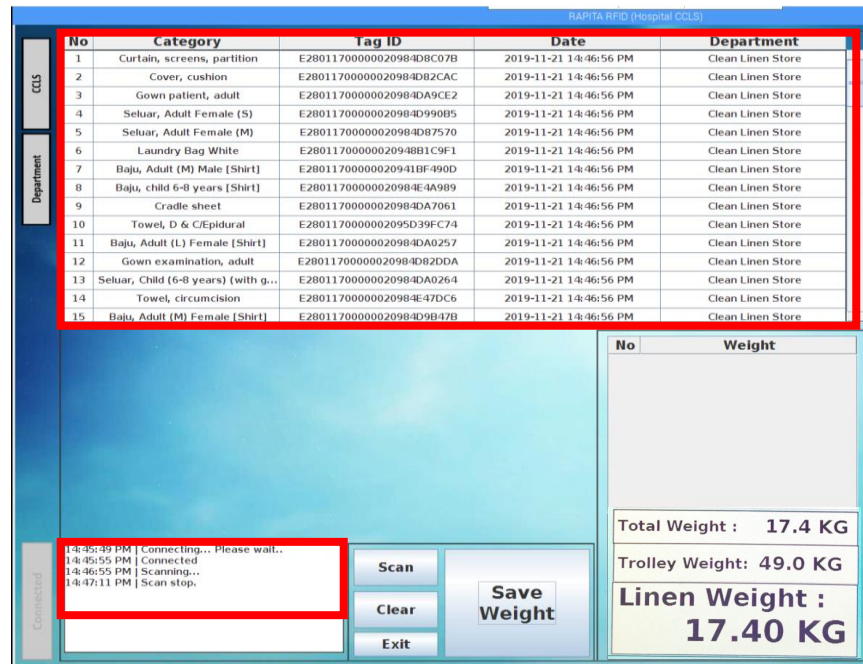1. Click on **Connect** button and wait for a while until the status box shown **Connected**.

2. Select CCLS in the top left corner in the system.
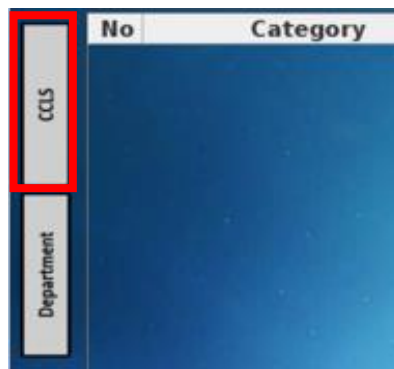
3. Click on **Scan button** first then **push the trolley** to the weighing scale. The system will start to scan all linen in the trolley. Once finished click on the **Stop** button to stop scanning process.
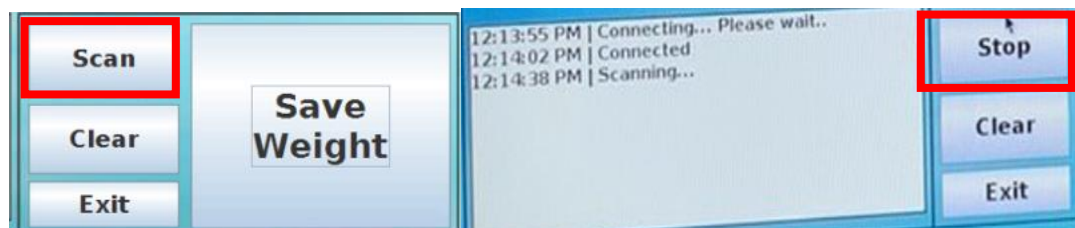
A list of linen will be shown in the system and a Scan Stop status will appear in the status box.

No	Category	Tag ID	Date	Department
1	Curtain, screens, partition	E2801170000002098D8C07B	2019-11-21 14:46:56 PM	Clean Linen Store
2	Cover, cushion	E2801170000002098D82CAC	2019-11-21 14:46:56 PM	Clean Linen Store
3	Gown patient, adult	E2801170000002098DA9CE2	2019-11-21 14:46:56 PM	Clean Linen Store
4	Seluar, Adult Female (S)	E2801170000002098D990B5	2019-11-21 14:46:56 PM	Clean Linen Store
5	Seluar, Adult Female (M)	E2801170000002098D87570	2019-11-21 14:46:56 PM	Clean Linen Store
6	Laundry Bag White	E28011700000020948B1C9F1	2019-11-21 14:46:56 PM	Clean Linen Store
7	Baju, Adult (M) Male [Shirt]	E28011700000020941BF490D	2019-11-21 14:46:56 PM	Clean Linen Store
8	Baju, child 6-8 years [Shirt]	E2801170000002098E4A989	2019-11-21 14:46:56 PM	Clean Linen Store
9	Cradle sheet	E2801170000002098DA7061	2019-11-21 14:46:56 PM	Clean Linen Store
10	Towel, D & C/Epidural	E2801170000002095D39FC74	2019-11-21 14:46:56 PM	Clean Linen Store
11	Baju, Adult (L) Female [Shirt]	E2801170000002098DA0257	2019-11-21 14:46:56 PM	Clean Linen Store
12	Gown examination, adult	E2801170000002098D82DDA	2019-11-21 14:46:56 PM	Clean Linen Store
13	Seluar, Child (6-8 years) (with g...	E2801170000002098DA0264	2019-11-21 14:46:56 PM	Clean Linen Store
14	Towel, circumcision	E2801170000002098E47DC6	2019-11-21 14:46:56 PM	Clean Linen Store
15	Baju, Adult (M) Female [Shirt]	E2801170000002098D9B47B	2019-11-21 14:46:56 PM	Clean Linen Store

4. Please ensure **trolley weight** able to detect and shows in the weight box as per below screenshot.

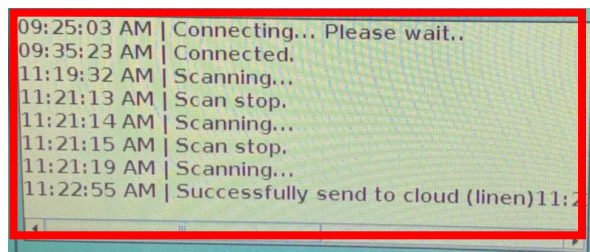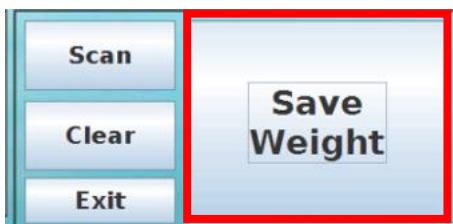5. To double check the quantity and type of linen scan, staff can scroll down in summary box on the right corner of the monitor.

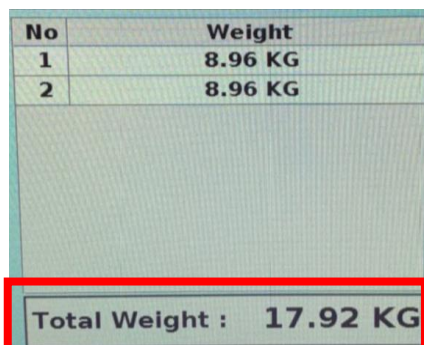6. After finish scanned all linen. Staff need to click on **Save Weight** Button to upload data to the cloud.

7. To **continue scan** the next trolley, please follow from **steps 3**. All scanned trolley will be shown in below box. A **total weight of linen** will be auto calculated for all scanned trolley.

No	Weight
1	8.96 KG
2	8.96 KG

Total Weight : 17.92 KG

8. If all trolley finished scan, staff can click on **Clear** button to reset all the setting back to default.

9. **Finish**.

2.2 Distribution Linen to Department.

Below are steps for distribution linen to department or ward based on their request: -

1. Click on **Connect** button and wait for a while until the status box shown **Connected**.
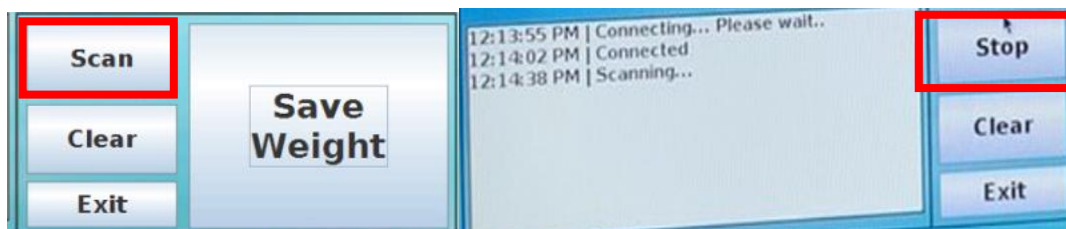

2. Select **Department** Button in the top left corner in the system. Then, select department based on the trolley.

An **alert** will popup if user **do not select** any department before scanning.

3. Push clean linen trolley to the weighing scale and click on **Scan** button. The system will start to scan all linen in the trolley. Once finished click on the **Stop** button to stop scanning process.

A list of linen will be shown in the system and a Scan Stop status will appear in the status box.

No	Category	Tag ID	Date	Department
1	Curtain, screens, partition	E2801170000020984D8C07B	2019-11-21 14:48:44 PM	Klinik Pakar 2
2	Cradle sheet	E2801170000020984DA7061	2019-11-21 14:48:44 PM	Klinik Pakar 2
3	Pillowcase, adult	E2801170000020941BF490B	2019-11-21 14:48:45 PM	Klinik Pakar 2
4	Towel, D & C/Epidural	E280117000002095D39FC74	2019-11-21 14:48:45 PM	Klinik Pakar 2
5	Towel, circumcision	E2801170000020984E47DC6	2019-11-21 14:48:45 PM	Klinik Pakar 2
6	Wrappers, single/Sheet abdomin...	E2801170000020984DA3A2E	2019-11-21 14:48:45 PM	Klinik Pakar 2
7	Baju, Adult (L) Female [Shirt]	E2801170000020984DA0257	2019-11-21 14:48:45 PM	Klinik Pakar 2
8	Gown patient, adult	E2801170000020984DA9CE2	2019-11-21 14:48:45 PM	Klinik Pakar 2
9	Gown examination, adult	E2801170000020984D82DDA	2019-11-21 14:48:45 PM	Klinik Pakar 2
10	Sarong, Adult Male	E2801170000020984D9C543	2019-11-21 14:48:45 PM	Klinik Pakar 2
11	Cover, cushion	E2801170000020984D82CAC	2019-11-21 14:48:45 PM	Klinik Pakar 2
12	Seluar, Child (6-8 years) (with gu...	E2801170000020984DA0264	2019-11-21 14:48:45 PM	Klinik Pakar 2
13	Seluar, Adult Female (S)	E2801170000020984D990B5	2019-11-21 14:48:45 PM	Klinik Pakar 2
14	Seluar, Adult Female (M)	E2801170000020984D87570	2019-11-21 14:48:45 PM	Klinik Pakar 2

4. Please ensure trolley weight able to detect and shows in the weight box as per below screenshot.

5. To double check the quantity and type of linen scan, staff can scroll down in summary box on the right corner of the monitor.
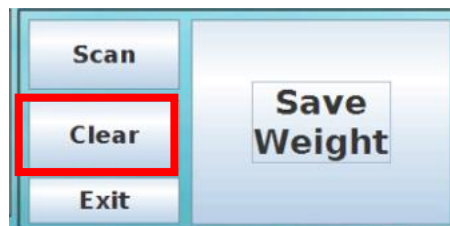

6. After finish scanned all linen. Staff need to click on **Save Weight** Button to upload data to the cloud.

7. To **continue scan** the next trolley, please follow from **steps 3**. All scanned trolley will be shown in below box. A **total weight** will be auto calculated for all scanned trolley.

8. If all trolley finished scan, staff can click on **Clear** button to reset all the setting back to default.

9. **Finish**.

3.0   Mobile Reader

Mobile reader will be use when there is inventory checking in CCLS and Ward. Staff will need to carry mobile reader and scanned linen in the cabinet for stock check. Below is the interface of mobile reader.
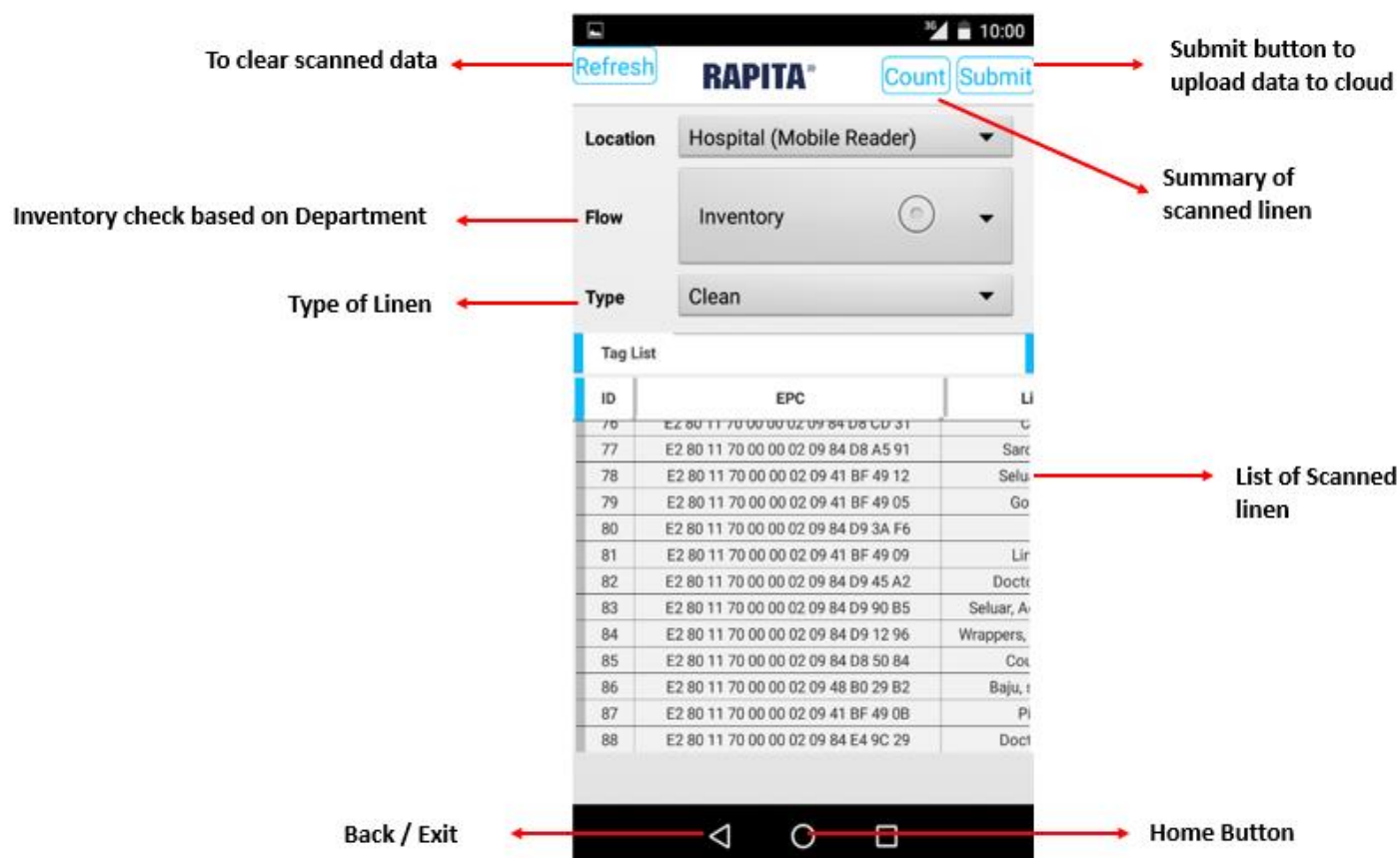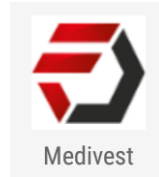

Figure 3.1 Interface of Mobile Reader

!	For best practice, scan linen using mobile reader in circular motion around the linen.

3.1　Inventory Checking

Below are steps to operate Mobile reader if there is any inventory checking need to be done by staff in CCLS or ward.

1. Find application as per screenshot below in the mobile reader.
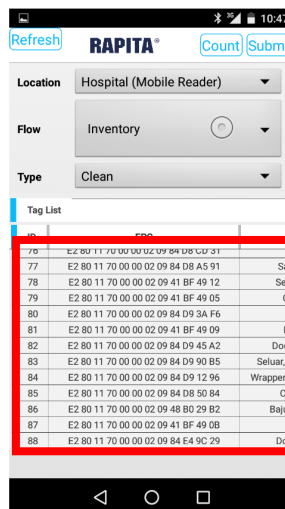

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2. Click on **start scan** to start the application.

3. Make sure **location** field is **Hospital (Mobile Reader)** and **Type** of linen is **clean**. Then, **select Flow** a dropdown will popup as per screenshot below for staff to select place for stock check.
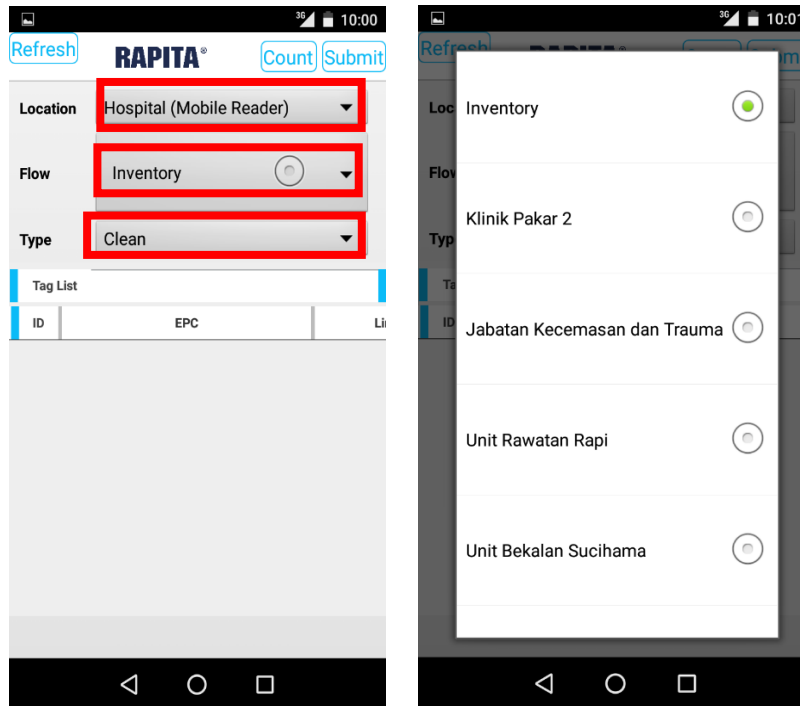
4. After selected all the field, staff can **start to scan** the linen. List of linen scanned will be showed in the application.
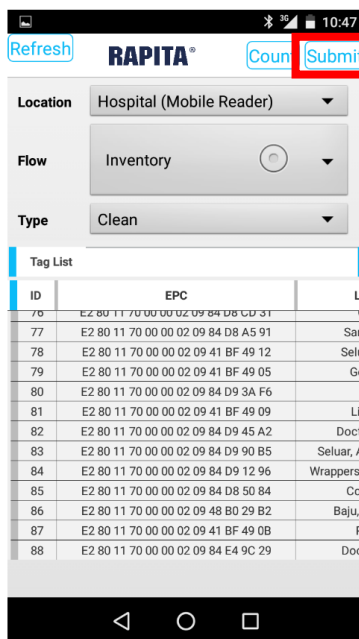
5. Once all the linen finish scanning, you may check the summary by clicking the count button.
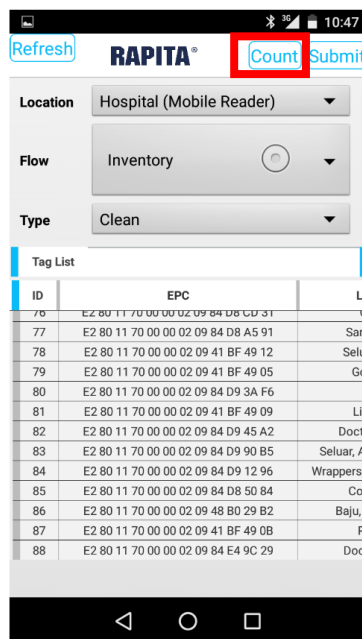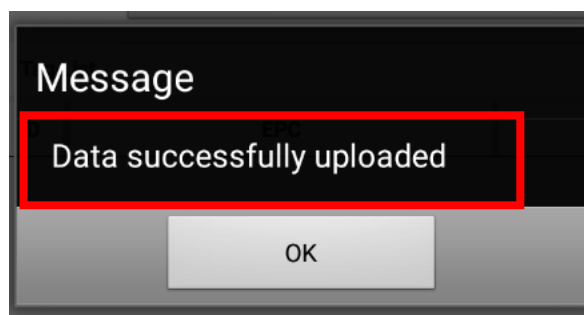

Below are sample of **count result** of the scanned linen.

	Count Results				
1	Apron, kitchen use only	1	64	Seluar, Adult (L) Female [Pants]	1
2	Baby napkin	1	65	Seluar, Adult (L) Male [Pants]	1
3	Baju, Adult (L) Female [Shirt]	1	66	Seluar, Adult (M) Female [Pants]	1
4	Baju, Adult (L) Male [Shirt]	1	67	Seluar, Adult (M) Male [Pants]	1
5	Baju, Adult (M) Female [Shirt]	1	68	Seluar, Adult (S) Female [Pants]	1
6	Baju, Adult (M) Male [Shirt]	1	69	Seluar, Adult (S) Male [Pants]	1
7	Baju, Adult (S) Female [Shirt]	1	70	Seluar, Adult (XL) Female [Pants]	1
8	Baju, Adult (S) Male [Shirt]	1	71	Seluar, Adult (XL) Male [Pants]	1
9	Baju, Adult (XL) Female [Shirt]	1	72	Seluar, child (1-3 years) (With Gutter) [Pants]	1
10	Baju, Adult (XL) Male [Shirt]	1			
11	Baju, baby (for newborn/premature/6-12 months)	1	73	Seluar, child (4-5 years) (With Gutter) [Pants]	1
12	Baju, child 1-3 yrs [Shirt]	1	74	Seluar, child (6-8 years) (With Gutter) [Pants]	1
13	Baju, child 4-5 yrs (S) [Shirt]	1			
14	Baju, child 6-8 yrs (M) [Shirt]	1	75	Seluar, staff (L) [Pants]	1
15	Baju, maternity [Shirt]	1	76	Seluar, staff (M) [Pants]	1
16	Baju, staff (L) [Shirt]	1	77	Seluar, staff (OT) (L) [Pants]	1
17	Baju, staff (M) [Shirt]	1	78	Seluar, staff (OT) (M) [Pants]	1
18	Baju, staff (OT) (L) [Shirt]	1	79	Seluar, staff (OT) (XL) [Pants]	1
19	Baju, staff (OT) (M) [Shirt]	1	80	Seluar, staff (XL) [Pants]	1
20	Baju, staff (OT) (XL) [Shirt]	1	81	Sheet, abdominal	1
21	Baju, staff (XL) [Shirt]	1	82	Towel, circumcision	1
22	Bath towel	1	83	Towel, D & C/Epidural	1
23	Bedsheet	1	84	Towel, dressing	1
24	Bedsheet, hostel	1	85	Towel, ortho/microsurgery	1
25	Blanket, adult	1	86	Towel, scope, side slit	1
26	Blanket, hostel	1	87	Wrappers, Baby	1
27	Cot sheet	1	88	Wrappers, single (102cm x 102cm)	1
			89	Wrappers, single / Sheet Abdominal (L)	1
			Count Total		**88**

6. After confirmed, click on the **submit** button and **Data successfully uploaded** message will pop up.
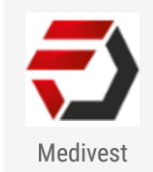

7. **Finish**.

3.2   Reject

If staff found any reject linen (condemned linen) that **cannot** be **reused** or **rewash**. They need to scan the linen as per steps below.
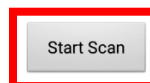
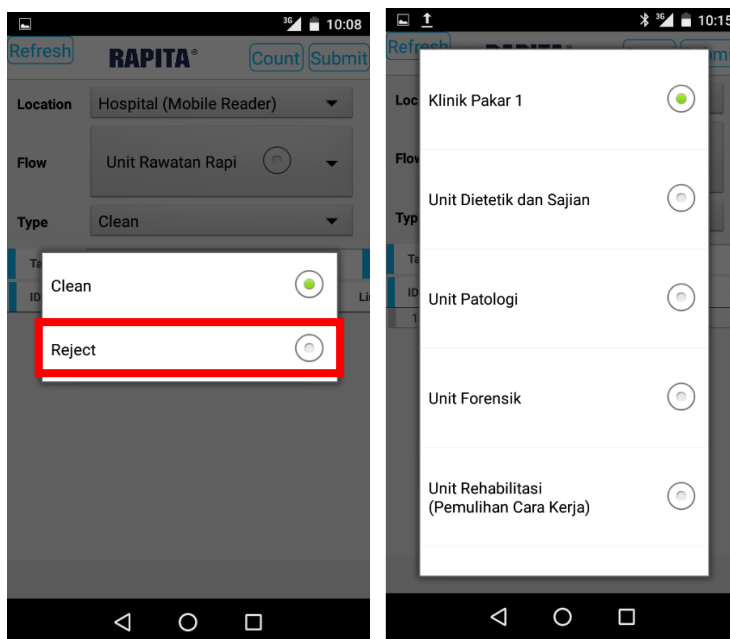1. Find application as per screenshot below in the mobile reader.



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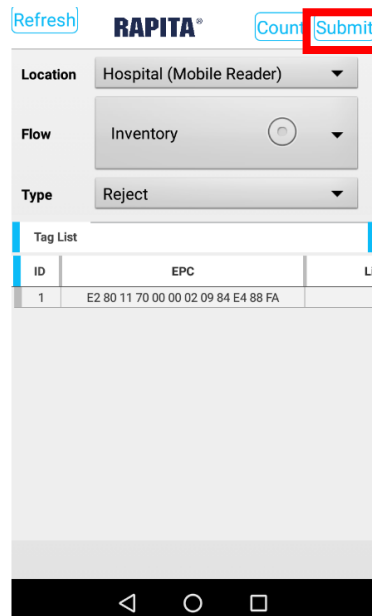2. Click on **start scan** to start the application.

3. Make sure **location** field is **Hospital (Mobile Reader)** and select **Reject** in **Type** field. Then, **select** Flow. A dropdown will pop up as per screenshot below staff will need to select which place have the reject linen.

4. After selected all the field, staff can **start to scan** the linen. List of linen scanned will be showed in the application.
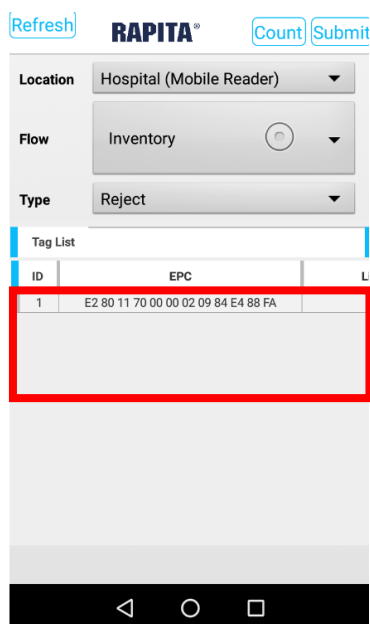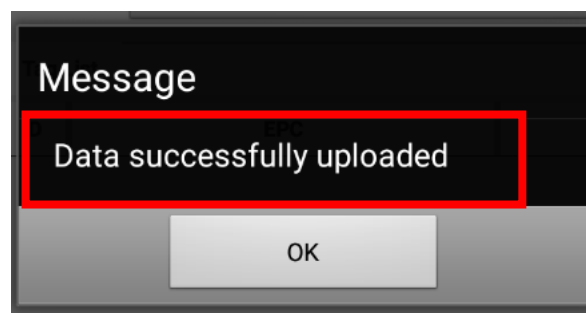
5. After confirmed, click on the **submit** button to send the data to the cloud.

6. **Data successfully uploaded** message will popup once submit button is click.
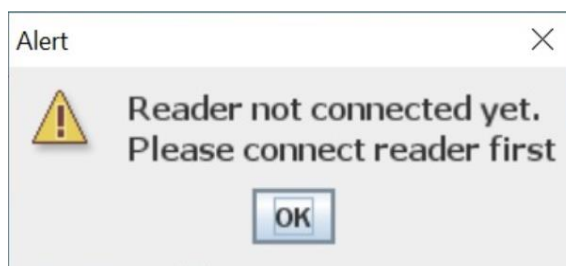
4.0 Precautions

Below are common errors that will pop up in the system and guide how to overcome this error. If issue still persist after following below guide, user may contact MDT Innovations for technical support.

3.1 Pole Gantry

- **Connection failed**

This error will be shown if user do not click connect button when scanning. User will need to click on **connect button** before start scanning the linen. Once the system connected to the cloud, a **Connected** status will be shown.
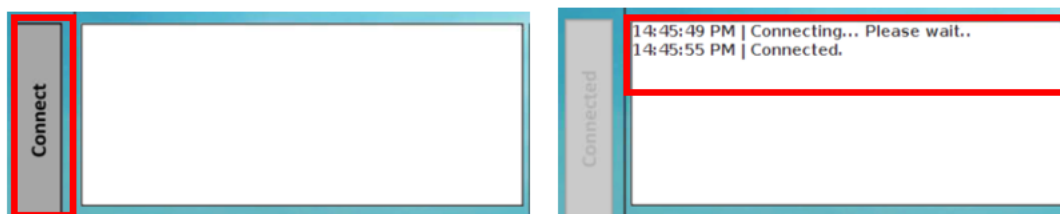
- **Select ward**

User will encounter above issue if they have **not selected any department** in the system. Therefore, user will need to select ward first before start scanning.
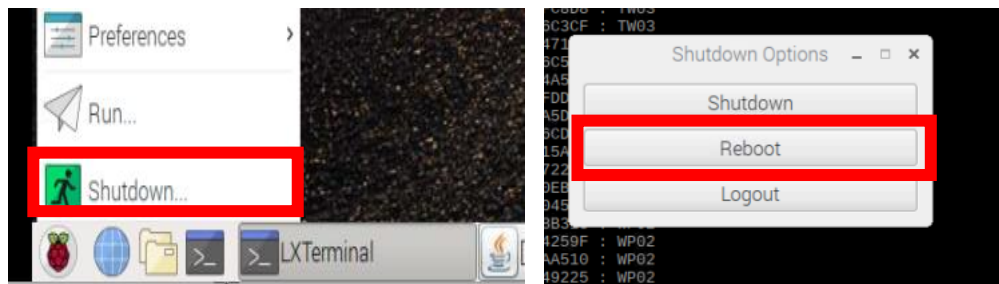
- **System Close**

    If user accidently click on exit button, the system will automatically exit. To open back the system user will need to reboot the PC. Please follow below steps to open back the system.

   1. Click on **Raspberry Pi** logo as per screenshot below.

    2. Click on **Shut Down** and select **Reboot**. Wait for a while to allow PC to reboot and the system will open back.
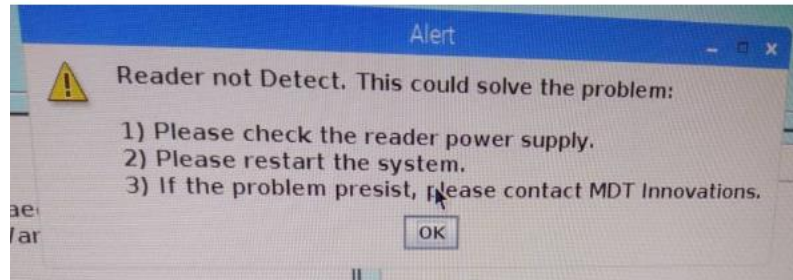

    3. **Finished**.

- **Unable to send data to cloud.**

    This error will popup if the data unable to send to the cloud. Kindly retry to send the data by click on **save weight** button. If issue still persist, please contact MDT Innovation for further troubleshoot.
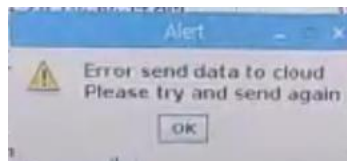
- **Reader not detected.**

Above error will appear if the antenna or reader unable to connect with the system. User will need to follow below steps to resolve this issue.
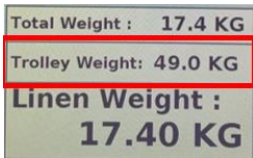
1) Check on **power supply**. Please ensure all adapters **lights on** as per picture below.

2) **Restart** the system as shown before.
3) If issue still persist, do contact MDT Innovation to get technical support.

- **Do and Don'ts.**

Below are do and don'ts to operate Linen management system.

| Do	Don'ts
For best practice, user will need to push the trolley two time but in different sides to the weighing scale when scanning the linen. This will ensure more accurate data and will save more time for scanning.	There is parameter set around the pole gantry. Users are not allowed to put any linen in the parameter.
Make sure trolley weight is detected in Clean Linen Pole Gantry before click on **Save Weight**.	**Don't click** or made any changes on both buttons below. If user mistakenly click and made changes on the settings. Kindly **contact MDT innovations** to reset back the setting to default.
Always check the **quantity of linen** and **linen weight** before click on **save weight** button.	There is a border in each antenna. **Do not simply move the antenna** from their specific border.

3.2 Mobile Reader.

- Internet Connection.
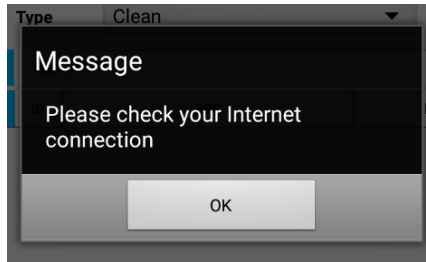
To submit data to the cloud, mobile reader should connect to the internet first. If below error pop up when user click on submit button. Please follow below steps: -

1. Check on mobile reader cellular data setting. Please ensure **cellular data** is **enable** in this setting.
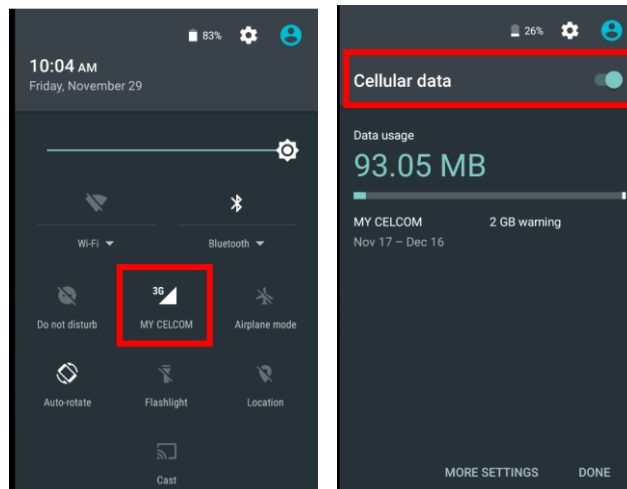
2. Then, try to **resubmit** the data to the cloud. If issue still persist, **restart** mobile reader by press and hold down **power button** for a few second. A menu will appear and tap on the **reboot** option.

3.3   Contact.

For any issue and problem on this system, user may contact on below numbers to get MDT Innovation support.

- o   Noor Fazliena binti Baharin (**Leeya**)
    Project Manager.
    +60 (17) 250 2791

- o   Nur Syafiqah binti Baharudin (**Iqa**)
    Assistant Project Manager.
    +60 (18) 208 2490