

## MoraMP - Mineral Processing Plant Design Software

The “MoraMP” is a web app developed to quickly design and analyze Mineral Processing Plant Flow sheets as well as select the best components, according to customer requirements in the most feasible and user-friendly manner. And also, there is not any platform like this software in the world for different mineral processing plant component manufacturers to show off their products with the specifications. Once the application is properly set up, then we can use the up-to-date real-time data bases and very accurate analysis results which cannot be seen in any other software in the present. Therefore, the ‘MoraMP’ is a solution for many problems related to mineral processing industry and a viable and practical design which is very user friendly.

### User Manual

Each part of this guides the user progressively into the web app starting with the loading screen to the final stage and the final launch. Then the guide explains the information given by the web app and how the user can change the view or make some additional features to the information displayed by the web app.

### Launch Screen

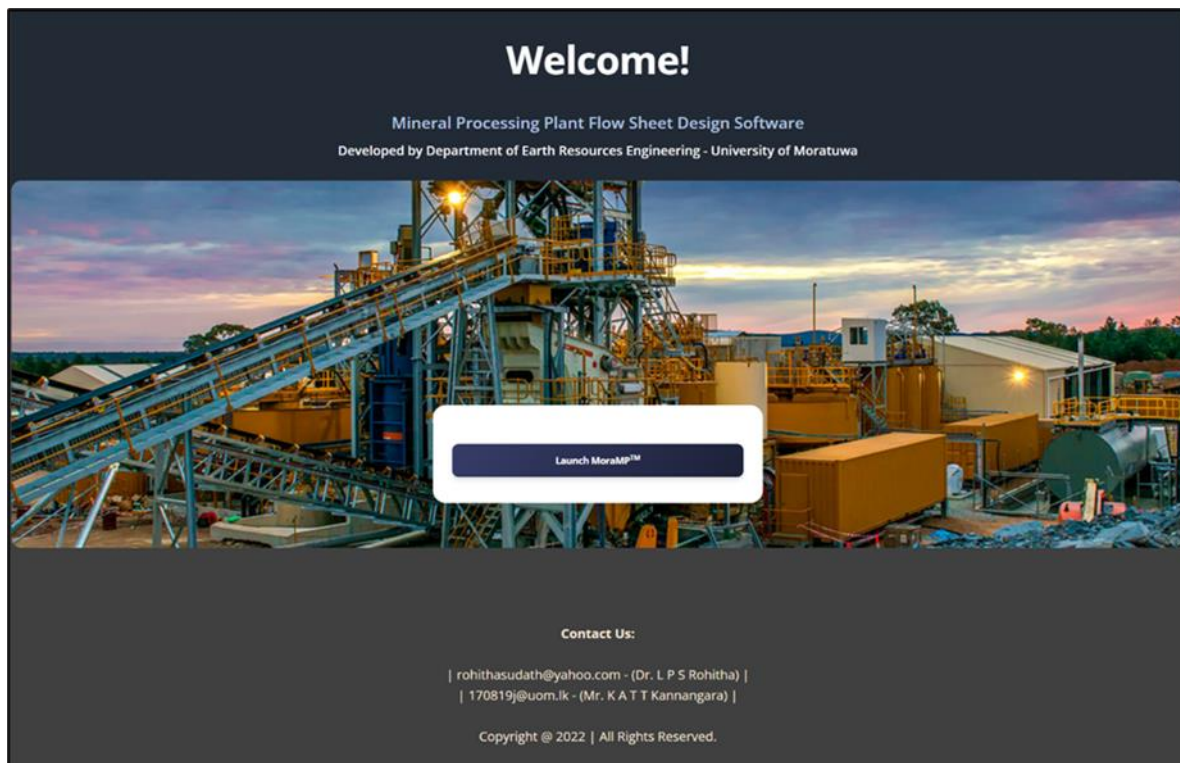


Figure 3. 1: Launch screen

This is the main launch screen of the web app. The access link of the web app is directly connected with this launch screen. The launch screen provides the basic details about the web app like the title of the web app, the development information, and the contact details of the web app developers. (Figure 3.1)

### 3.2.2. About Us window

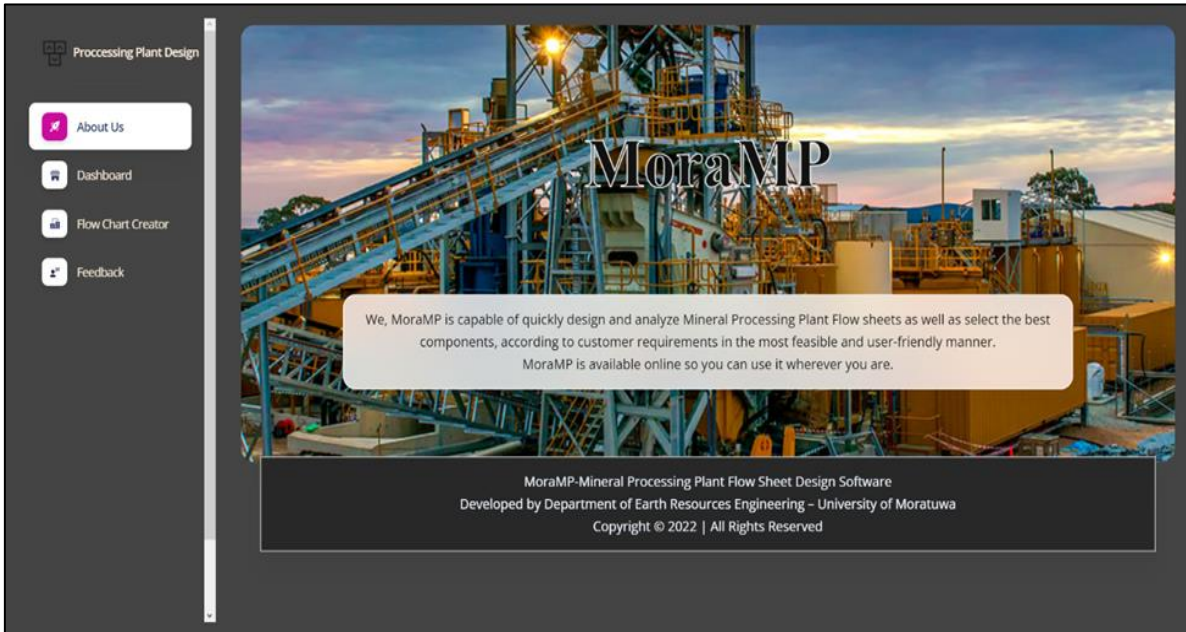


Figure 3. 2: About us window

This is the main user interface which appears once the user logged in to the web application. There are four tabs as About Us, Dashboard, Flow Chart Creator and Feedback on the left side of the interface panel. (Figure 3.2)

### 3.2.3. Dashboard

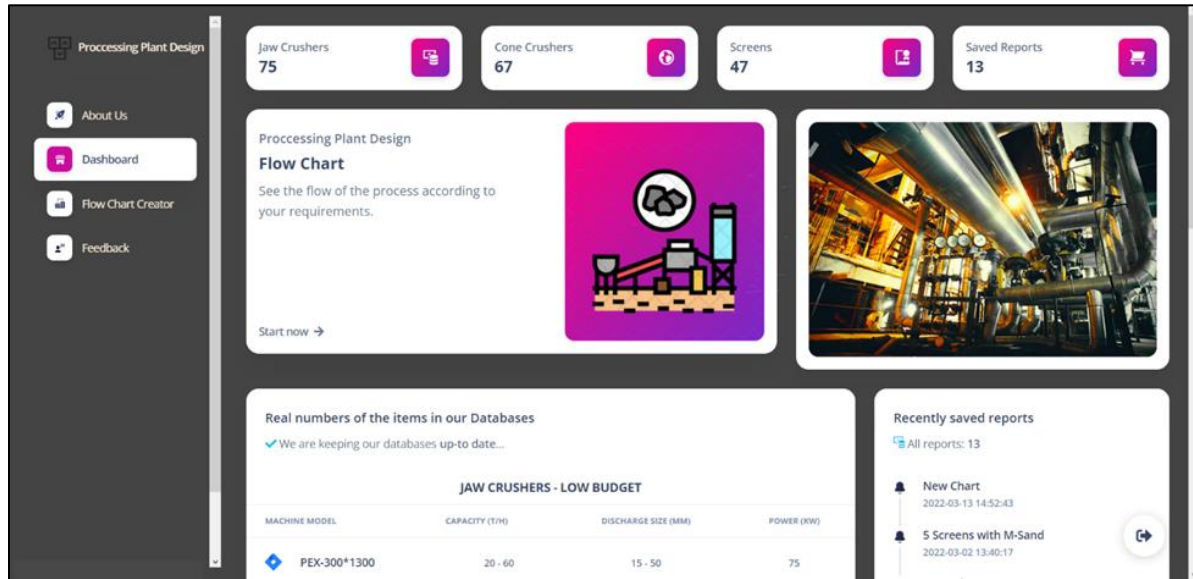


Figure 3. 3: Dashboard

This is the dashboard window of the software. At the top number of different kind of components such as jaw crushers, cone crushers, screens and the amount of flow sheets created are shown. At the middle, there is a link to access flow chart creator tab. The bottom of the window shows the components in the software with the specifications and previously designed flow sheets. (Figure 3.3)

### 3.2.4. Flow Chart Creator

#### 3.2.4.1. Data input form - 01

When user clicked, the tab 'Flow Chart Creator', this Data input form – 01 (Figure 3.4) will appear. Here user must select the mineral type first by using the drop-down box. (Suppose user has selected Aggregate.) Then the input size in millimeters, monthly output capacity in tons, number of working days per month, number of shifts per day, number of hours per shift respectively according to the user requirements. Finally, user must click the 'Proceed' button.

Restriction popups will appear when number of working days per month exceeds 27, number of shifts per day exceeds 2 and number of hours per shift exceeds 10 in the software.

The expected efficiency of the plant can be given as input by the user.

#### 3.2.4.2. Data input form – 02

Then the Data input form – 02 (Figure 3.5) will appear. There, user must input the output particle size ranges in millimeters according to the requirements. At the bottom of the form,

The form contains the following input fields:

- Mineral Type:** Aggregate
- Input Size:** 152 x 228 mm
- Monthly Output Capacity:** 8000 Tons
- No. of Working Days per Month:** 28 Days
- No. of Shifts per Day:** 2 Shifts
- No. of Hours per Shift:** 8 Hours
- Expected efficiency:** 95%
- PROCEED** button

Figure 3. 4: Data input form 01

there is a box to tick if the user needs manufactured sand. If user ticked that box, user must input the percentage of manufactured sand required from dust by filling the relevant box at the front. After completion all user requirement data inputs, user must click the ‘Create Diagram’ button at the bottom.

3.2.5. Flow Sheet Display

After that, the flow chart will be designed as shown in Figure 3.6. The flow chart shows the flow required for the plant; components required for the processing plant, the best models of those components which fit the user requirements in high budget and low budget, the flow rates in different sections of the flow sheet and final outputs with particle sizes and capacities.

And user can see the specifications of the components by clicking on each component on the flow sheet as shown in Figure 3.7 with a dialog box.

Output Particle Sizes

Output Particle Size

0

x

5

mm

Up to 5mm

Output Particle Size

5

x

10

mm

Up to 10mm

Output Particle Size

10

x

14

mm

Up to 14mm

Output Particle Size

14

x

22

mm

Up to 22mm

Output Particle Size

100

x

100

mm

☒ M-Sand | Percentage from the dust

50

%

CREATE DIAGRAM

Figure 3. 5: Data input form 02

Jaw Crusher

Reduction Ratio

Particle Size Distribution

x

	Low Budget	High Budget
• Model	PE-400*600	CT1252
• Feed Opening Size (mm)	400*600	320*1300
• Max Feeding Size (mm)	340	250
• Min Capacity (t/h)	10	50
• Max Capacity (t/h)	35	130
• Rotate Speed	275	-
• Motor & Power (kw)	30	55
• Discharge Size (mm)	40 - 100	25 - 90
• Closed Side Settings	40,100	25,90
• Weight (t)	6.5	10.8

Figure 3.7: Specification display

Moreover, user can see the reduction ratios, estimated particle size distributions by clicking the buttons of the top of appearing dialog box as shown in Figure 3.8 and Figure 3.9 respectively. User can close the appearing windows by clicking the black cross at the top right corner of dialog boxes.

Jaw Crusher

x

	Low Budget	High Budget
• Reduction Ratio	3.4	2.78

Figure 3. 7: Reduction ratio display

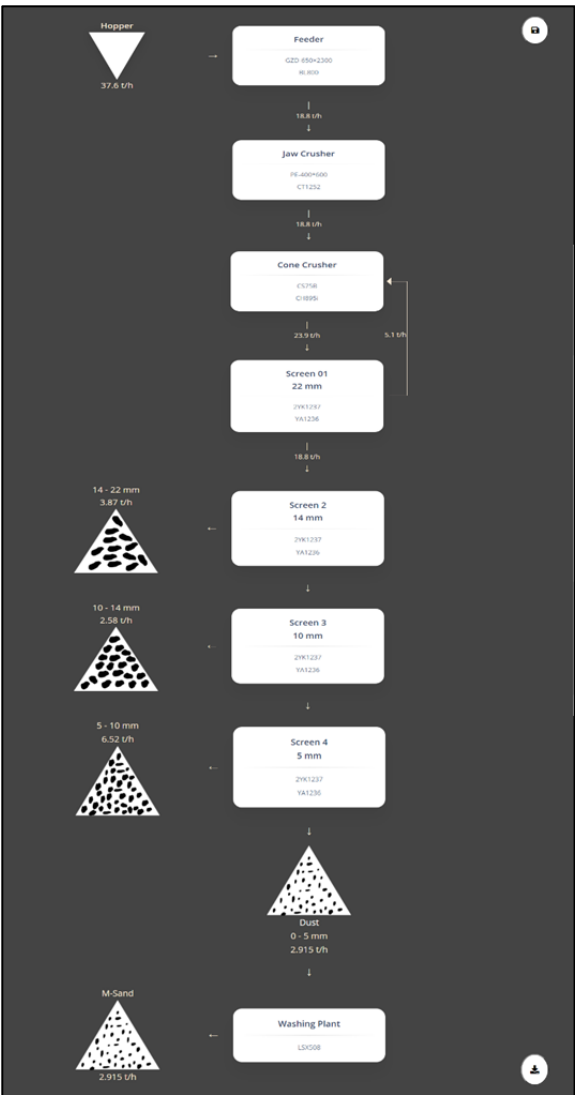


Figure 3. 6: Output flow sheet

### 3.2.6. Export data

This is the final phase of the software. By using the 'Export' button, user can download the pdf version of the flowsheet created with the best suited component models and their modifications. And, there is a save button at the top right of flow sheet display to save the created flow sheet for future use.



Figure 3. 9: Particle size distribution display

### 3.2.7. Feedback

This form can use by the user to provide any feedback about the software and any required further developments for the software to the software developers.

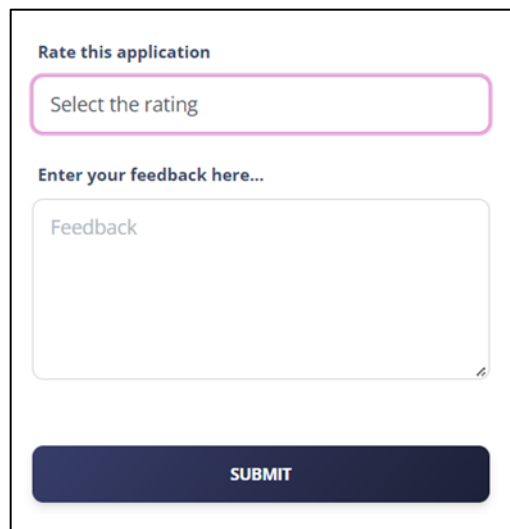


Figure 3. 10: Feedback form