

Proof of Concept
Pre-Detailing

Rajesh Mohan Rao



Introduction:

Purpose of this Document:

The reason behind this idea is to keep a single source for tracking, updating, managing...

Keeping all the parameters or any input related to model and drawing in the model itself. Drawing to be kept only to retrieve information from the model. Any update or modification can be done only from the model. Model is the single source for all the information and its truly associative with drawing. Instead of keeping the information on the both module.

In future instead of opening the both module from PDM can only download model and update it. Drawing part to be get saved automatically once the model is saved successfully.

Document structure:

This document is organized in the following sections:

1. SUMMARY OF CURRENT ENVIRONMENT
2. REQUIREMENTS FOR NEW SYSTEM

SUMMARY OF CURRENT ENVIRONMENT

- The user creates the model with the reference image. The dimensions are created while developing the model. The dimensions given in the reference may be used or it is multiplied for some reason and created according to that.
- In detailing, the same dimensions are created by using the show and erase option. Some areas the dimensions are created as per the dimensions given in the image.

REQUIREMENTS FOR NEW SYSTEM

Across the manufacturing companies “n” number of models and drawings are created. Most important is everyone is investing their time to complete their day-to-day task which is assigned to them. All the jobs to be first time right. There are many areas repeating the same work due to process violation or standard procedure which is not up to the technology or need upgrade.

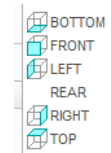
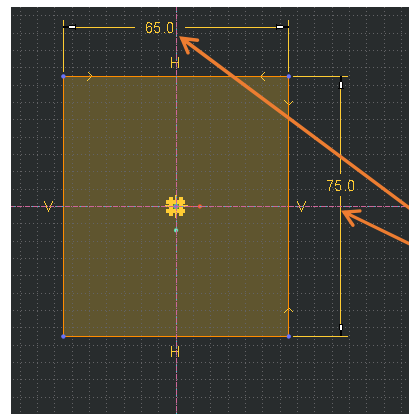
How to make the detailing in model itself?

Below is proof of concept to achieve the pre-detailing in the modeling itself.

- The dimensions or any information to be shown in the model itself.
- Example: Designer generates a hole in the part, then the tool should drop a relevant spec in the spec block area of the template in the grey color. Once the concept design is finalized the user can ensure to keep the spec or note kind of information in the model.
- Complete dimensions of the model can be viewed if necessary. On/Off
- Projections views and section views to be set in the model itself. On/Off
- User should switch to the projections views and create it in the model screen itself.
- The created dimensions to be moved to Projected views(Front, Top, Right) and section views just by right click or any method.
- During the sketching screen also the dimensions can be set to the respective views.
- Options to add note to below the view name in the screen-Annotations
- Enhancing the annotation features. Some areas need to type a text with leader.
- Arranging the multi level dimensions in the model screen itself for clarity in the drawing.
- As like section feature in the model tree. Machining option also required.
- At the time of removal of material from the casting the G-TOL to be appeared asking for respective G-TOL to select.
- Initiate the drawing template from Model itself. Add color if required to differentiate for confidentiality.

REQUIREMENTS FOR NEW SYSTEM

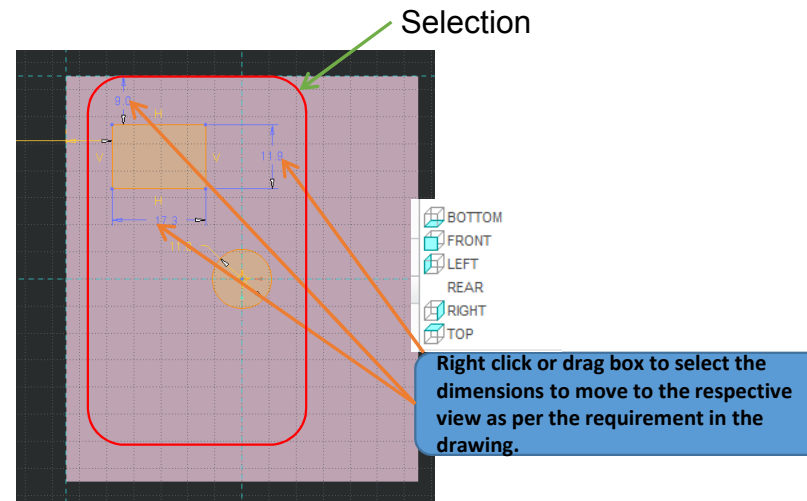
1. Refer the reference drawing or while creating concept modeling, arrange the dimension properly as we do in drawing.



Right click or drag box to select the dimensions to move to the respective view . As per the requirement in the drawing.

REQUIREMENTS FOR NEW SYSTEM

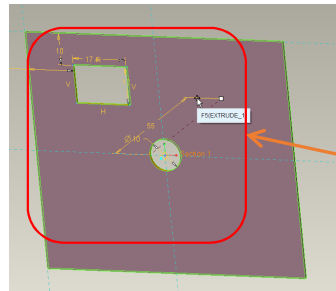
1. Dimension need to be moved to add to different views as per the requirement
2. Draw a box/individual selection in the screen to select the dimension.



REQUIREMENTS FOR NEW SYSTEM

1. Dimension need to be moved to sent to different views in 3D instead of sketch.
2. Draw a box/individual selection in the screen to select the dimension.
3. The system also to be intelligent to give message that this dimensions is repeating.
4. If the dimension to moved to any section view, Section view to be taken prior

Rotate in 3D to
select dimension



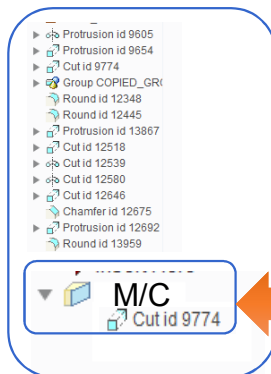
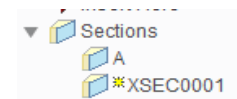
Right click or drag box to select the
dimensions to move to the respective
view

REQUIREMENTS FOR NEW SYSTEM

Machining

1. Differentiate any operation in the model tree same like sections . If it is machining/welding module.
2. Machining features to be carried in a separately like Sections. Not to be mixed with casting features.
3. Instead of creating same sketch to cut the machining cut in the model.
4. Select the surface by default it has to remove the material as per the default machining requirement set in the config.
5. This improves the model quality and also it is process defined, not to depend on the modeler who developed this model. Spending more time to research how the feature is created.
6. Not to be so intelligent at the time of creating machining features in Creo. To give some options relevant to the surface of the model or all the G-TOL to select the desired as per the design.

Reference for M/C



Dimension

Add. TEXT

G-TOL with options

Questions

Contact : Rajesh Mohan Rao for more details