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ARCHITECTURAL MODELING USING REVIT

USER INTERFACE & TEMPLATES

USER INTERFACE

USER INTERFACE:

It is the place where users interact with the software to bring out our 3d models by using necessary inputs.

The user interface of Revit Architecture is a bit similar as the AutoCAD; let us see the things in detail.

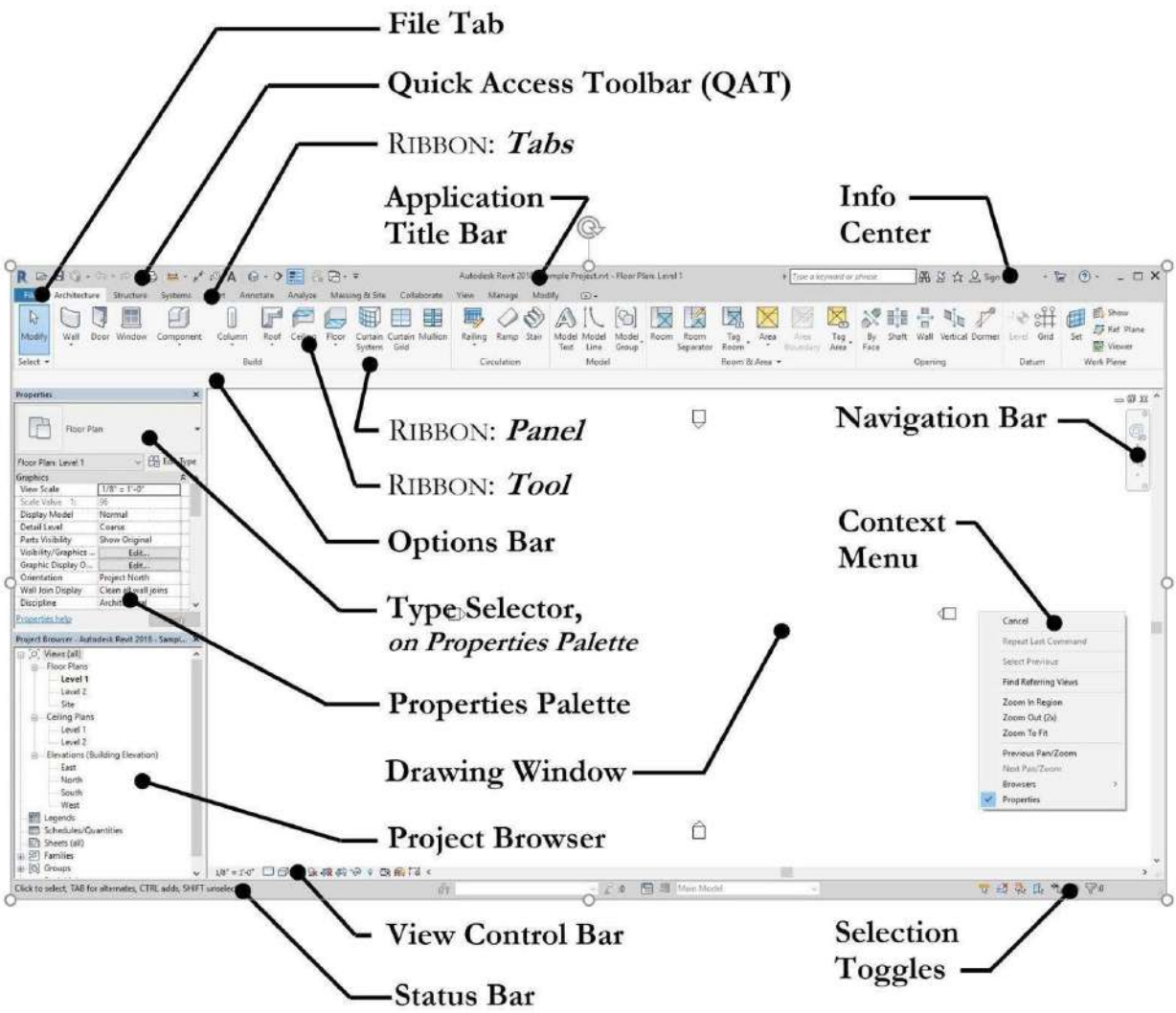


Figure 3.1

APPLICATION MENU – In which we can see the things like opening a document, saving, exporting, importing, and closing the document.

QUICK ACCESS TOOLBAR - The Quick Access toolbar contains a set of default tools. You can customize this toolbar to display the tools that you use most often.

APPLICATION TITLE BAR - The title which we had given to our project will be displayed here.

INFOCENTER - Info Center provides a set of tools that enable you to access many product-related information sources.

RIBBON TABS, RIBBON PANELS, RIBBON TOOLS - There are different ribbon tabs in which they are divided into different panels and in each and every panel there will be different tools to bring out different operations. The ribbon displays when you create or open a file. It provides all the tools necessary to create a project or family.

OPTIONS BAR – The Options Bar is located below the ribbon. It displays conditional tools dependent on the current tool or selected element.

PROPERTIES PALETTE - The Properties palette is a modeless dialog where you can view and modify the parameters that define the properties of elements.

TYPE SELECTOR - The Type Selector identifies the currently selected family type and provides a drop-down from which you can select a different type.

PROJECT BROWSER- the Project Browser shows a logical hierarchy for all views, schedules, sheets, groups, and other parts of the current project. As you expand and collapse each branch, l

VIEW CONTROL BAR- the View Control Bar provides quick access to functions that affect the current view.

3D VIEWCUBE & NAVIGATION BAR- These are useful to rotate or to move the pan and zooming in or out the 3d model.

DRAWING WINDOW- The area which is present at the center portion of our user-interface which is used for generating the 3d model. We can term it as a drawing window.

TEMPLATES

What is the project template?

A project template provides a starting point for a new project, including view templates, loaded families, defined settings (such as units, fill patterns, line styles, line weights, view scales,), and geometry, if desired.

A project template may contain custom families like title blocks, model elements, such as doors and windows, and annotation elements, such as element tags and view references. Before creating the project template, designate a location to store these custom families so they can be accessed easily.

As installed, Revit provides several templates for different disciplines and types of building projects.

Different project templates in Revit

1. Architecture template
2. Structural template
3. construction template
4. Mechanical template

5. Default metric template.

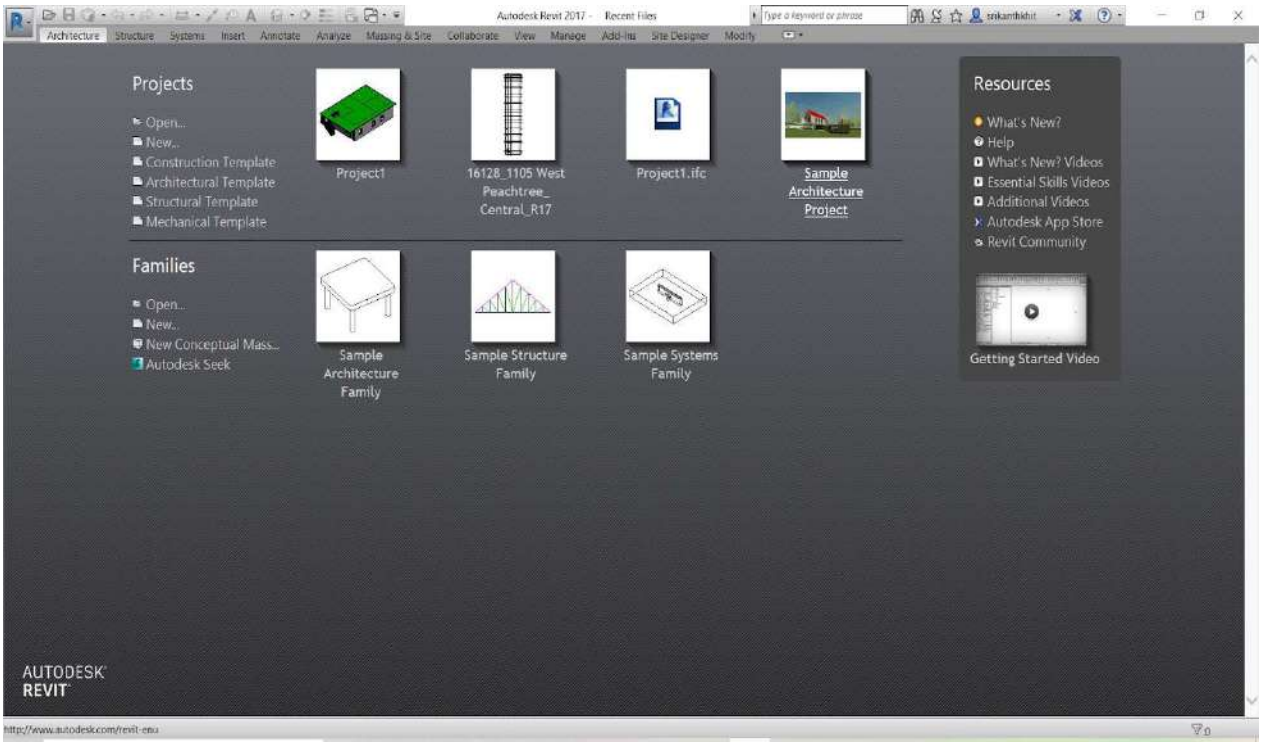


Figure 3.2

Revit Architecture template is a modelling and detailing tool that is best suited for architects and modelling purposes. Revit Architecture specific tools can be found on the 'Architecture' tab. It is all about the build environment.

Structural Templates used to design a building or to design the building's elements, think as you need to design the structure of something (building) like floor, wall etc. (Revit Structure specific tools can be found on the 'Structure' tab. They are also about the built environment but includes tools for analyzing and graphically presenting loads in the structure)

Construction Template: As its name used to construct building, means inside parts such as beam, column, footing, etc.

Revit MEP specific tools can be found on the 'Systems' tab. It is not without meaning that the tab is called systems. Its tools are about the systems involved in mechanical systems (ventilation), electrical distribution systems, and plumbing and gas systems. Each system is a fully equipped unit. Revit systems will complain if they are not valid. They can for example tell you how much drop in pressure there will be in the ventilation system out plumbing system.

What are families?

A family is a group of elements with a common set of properties, called parameters, and a related graphical representation. Different elements belonging to a family may have different values for some or all of their parameters, but the set of parameters (their names and meanings) is the same. This variation within the family is called family types or types.

All families can be two-dimensional, three – dimensional, or both ,but not all families have to be parametric.

Role of families

Doors and windows families are examples of 3D families, which display accordingly in isometric and plan views.

Annotations details families are examples of 2D families that do not require 3D representation.

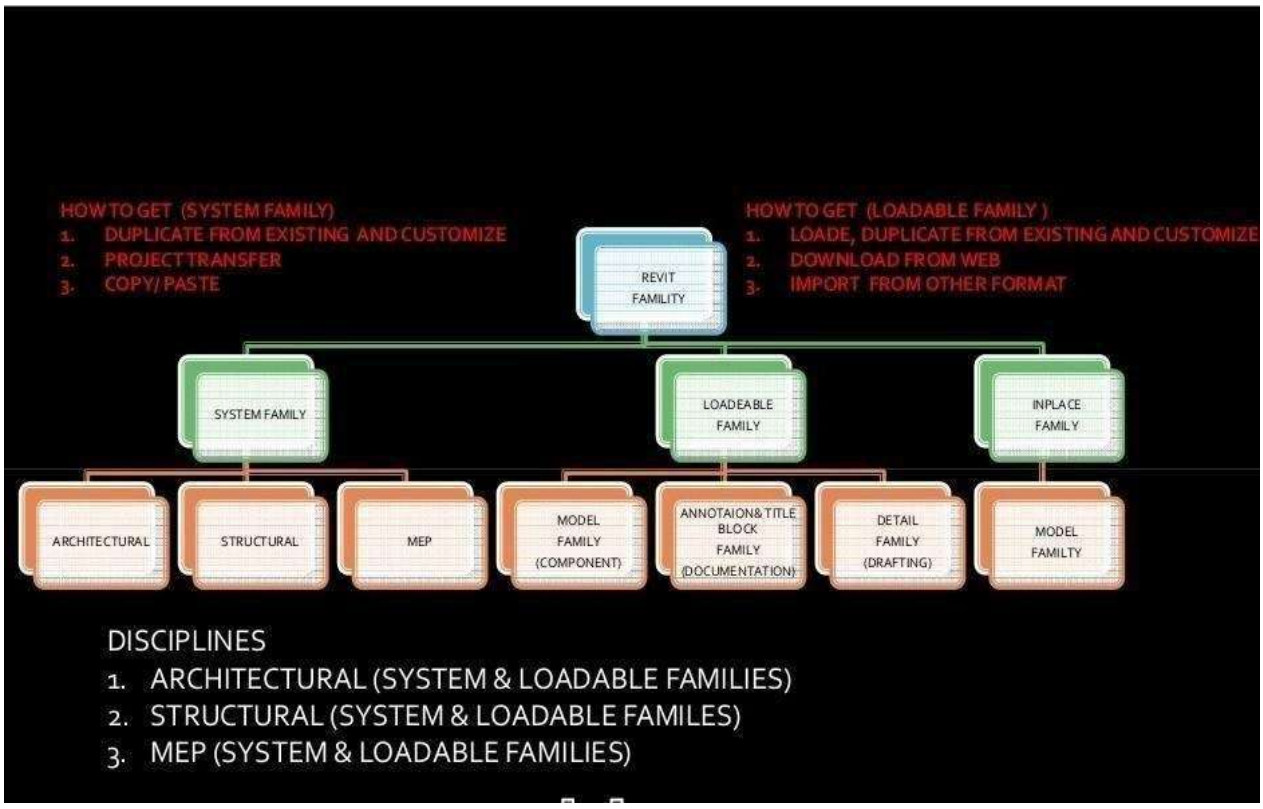
Different types of Families?

There are 3 kinds of families in Revit:

1. System families – create basic elements such as walls, floors, roofs, and ceilings, built inside a project and other elements that you would assemble on site

2. Loadable families – families used to create both system components and some annotation elements, Loadable families create the components that would usually be purchased, delivered, installed in and around a building, such as (which are built with primitives (extrusions, sweeps, etc.) separately from the project and loaded into a project for use)

3. In- place families – unique elements that you create when you need to create a unique component that is specific to the current project. (Which are built in-situ within a project with the same tool set as loadable components)



File formats in Revit

1. Project files (.rvt)
2. Revit family file. (.rfa)
3. Revit template file. (.rte)

4. Revit family template file. (.rft)

1. Project file means is an entire project file.
2. Revit family file are system families, Loadable, families in- place families.
3. Revit template files are like Architecture, structural, construction, MEP, etc.
4. Revit family template files are used to create own family files.