Anchoring

Anchoring is the system used to determine both the location and size of a UI element on the screen. Dimension properties such as "Width" and "Height" are just a shortcut to setting the anchoring of a UI element.

To exist on the screen a UI element needs an anchor for Top, Bottom, Left and Right. There are some cases where some of the anchors can be set by the UI system instead of manually in layout XML (such as using dimensions), but we will go into those a bit later. For now, let's look at what an anchor looks like and breakdown its elements.

<Anchor side="Top" relative="$parent" pos="Min" offset="10"/>

This anchor has 4 different parameters, "side", "relative", "pos" and "offset". All anchors have these same parameters, so let's consider what each of them means.

Side

The "side" parameter determines which side of our UI element we are trying to anchor. The four possible values are Top, Bottom, Left and Right.
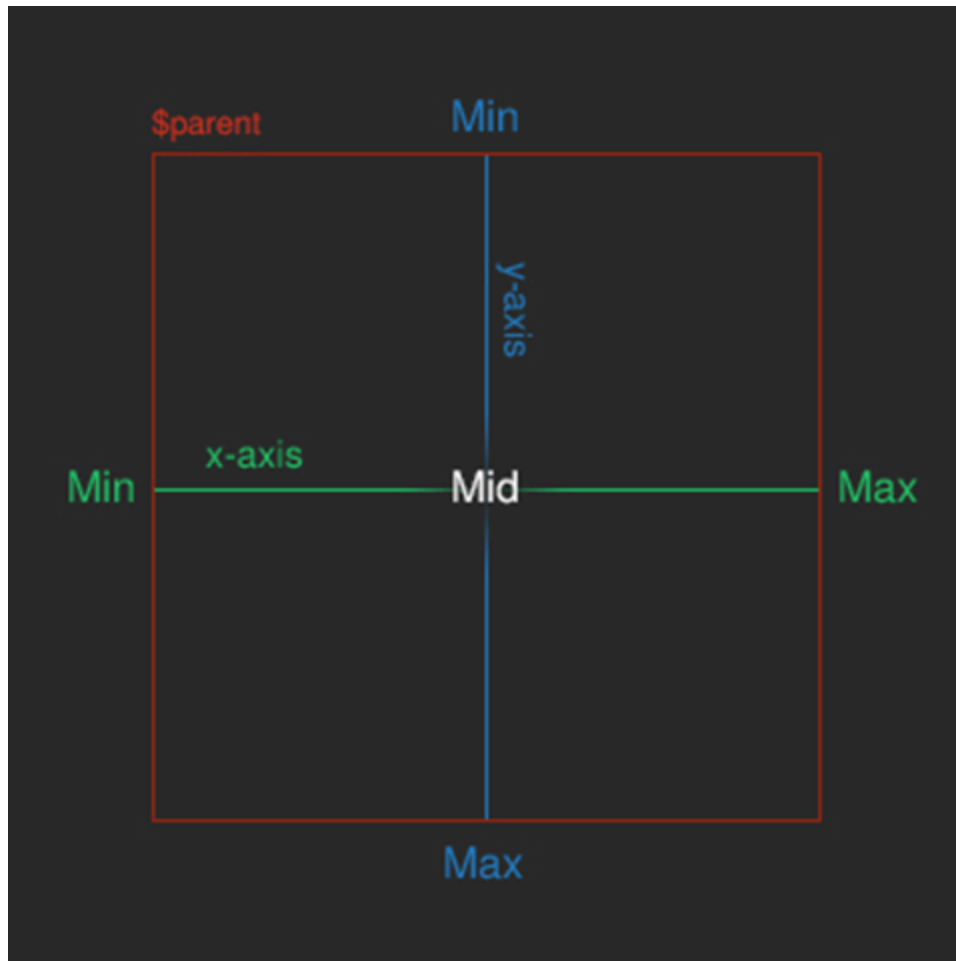
Relative

The "relative" parameter determines which frame we are trying to anchor our UI element to. Valid values are any relative frame address, but that can get kind of complicated so let's just use "$parent" for now, which refers to the parent frame for the UI element we are trying to anchor.

Pos

The "pos" parameter is the first of two components to determining where you want to anchor your UI element on the frame you assigned using the "relative" parameter. The three main possible values are Min, Max and Mid. These three values refer to a position along the X, or Y axis of the frame you are anchoring to (what you set in the "relative" parameter). This parameter can also accept percentage and real values but let's ignore that for now.

Which axis you are anchoring to is determined by the "side" parameter you set earlier. For "Top" and "Bottom", you are using the Y-axis, and for "Left" and "Right" you are using the X-axis. Now that we understand what axis we are anchoring along we can talk about what our three possible values mean. "Min" means the minimum possible value along that axis, which on the Y-axis is at the top, and on the X-axis is on the left. For Max it is the opposite, and for Mid it is dead center in the middle of the frame you are trying to anchor to.

Offset

The "offset" parameter is the second of the two components to determining where you want to anchor your UI element on the frame you assigned using the "relative" parameter". This value is the number of pixels or units you want to move the frame from the Min/Mid/Max hardpoint you chose. Consider the axis you are anchoring on, and moving an item towards in the direction of the "Min" of that axis is giving it a negative number. So if you are on the X-Axis, an offset value of "-5" will move your frame to the left 5 pixels. An offset value of "5" will move it to the right 5 pixels.