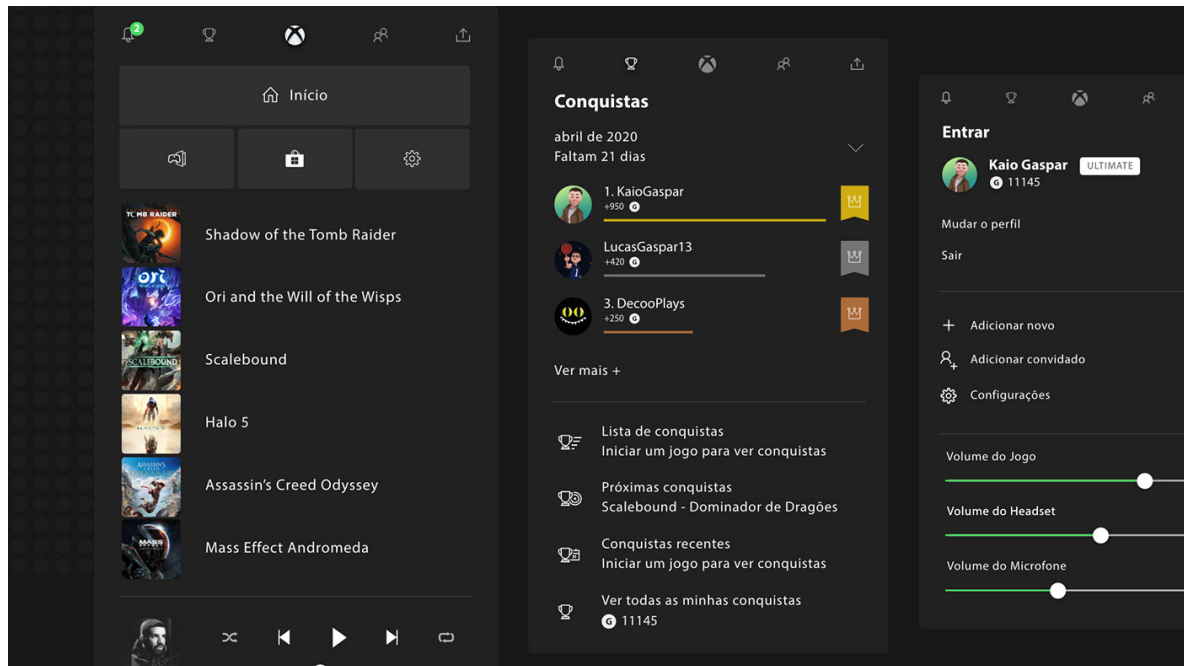


Layouts



Layouts is one of the most important concepts in any Graphical User Interface (GUI) designing.

An application's User Interface may consist of several screens or pages. The Lay out of each screen is what is commonly referred to as the "layout", so layout is self explanatory. But what you may not know is, that certain parts of the screen may change but not those directly inside a layout. View allows positions of an item inside of it to change, but layouts don't, that is to say that there is another UI concept and component called views which will be discussed later.

So, Layouts are static whereas Views are dynamic. Views reside inside layouts, and also views may lay out themselves using layouts. So knowledge of layouts is indispensable.

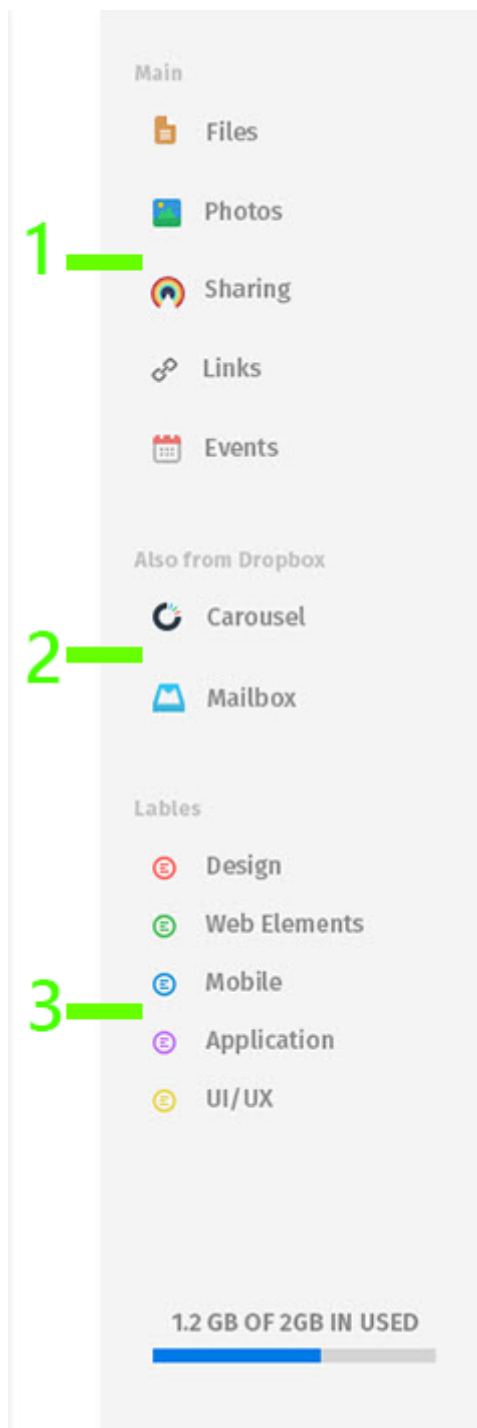
Qml has four(4) layout types, you can combine then to create whatever layout you want. The types are RowLayout (row layout), ColumnLayout (column layout), GridLayout (grid layout), and StackLayout (stack layout).

ColumnLayout

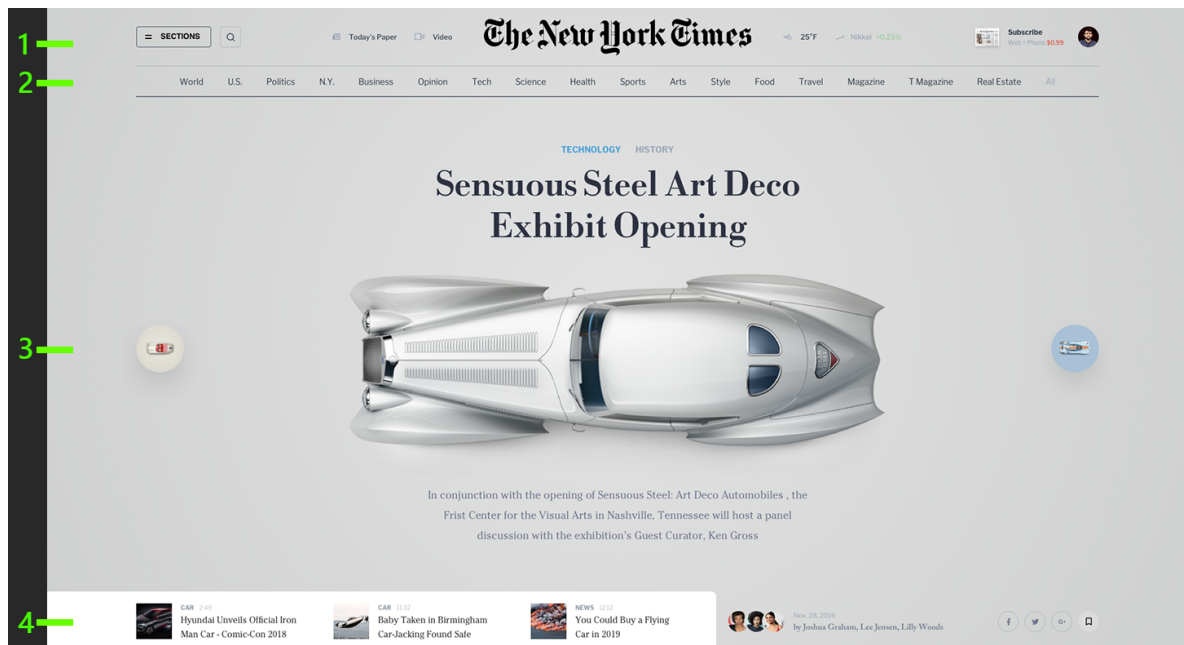
ColumnLayout - arranges its contents so that we get a column, but also each of the items in there is a row inside the column. So we have something like shown in the images below.

The numbers shows the direct contents of the Column layout. These are rows inside a column. Together they form a column.

App sample 1



App sample 2



RowLayout

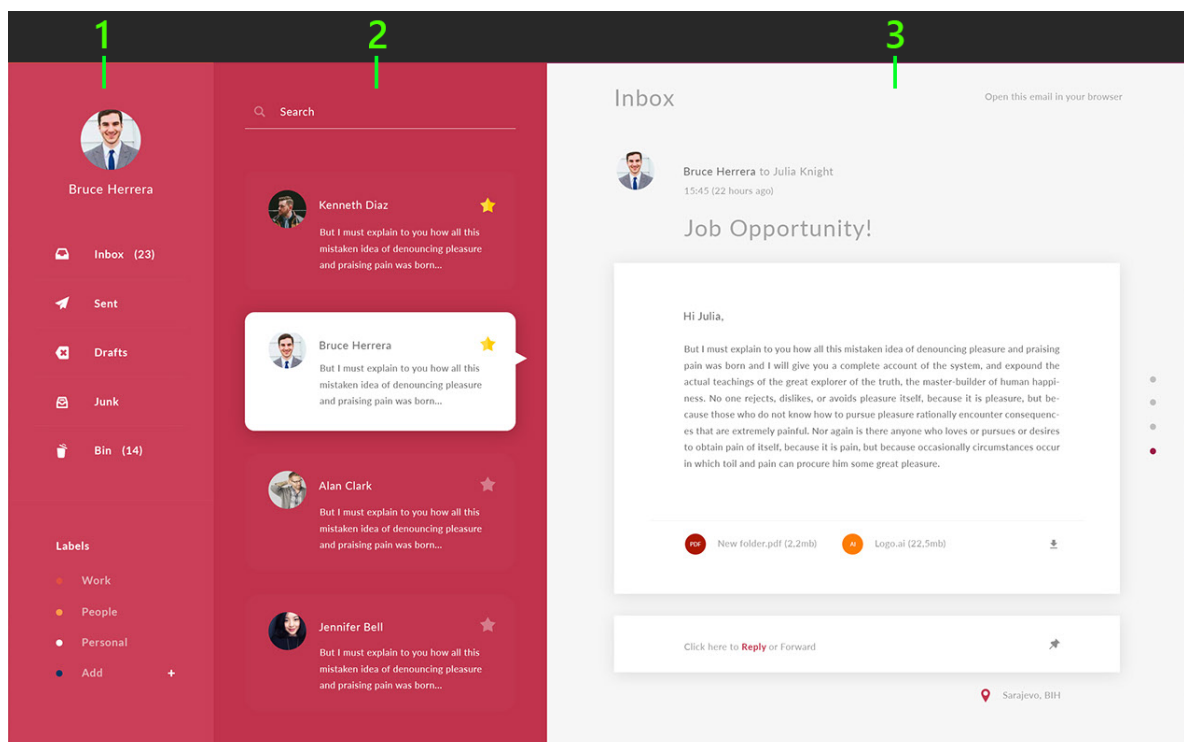
RowLayout - arranges its contents so that we get a row, but each of the items in there is a column inside the row. So we have something like shown in the images below.

The numbers shows the direct contents of the Row layout. These are columns inside a row. Together they form a row.

App sample 1



App sample 2



GridLayout

GridLayout - arranges its contents so that we get a grid, but each of the items in there is a cell inside the grid. When a grid layout is implemented. The number of rows and/or columns are indicated. Which means that the minimum width and/or height of each cell is indicated, so if a cell wants to be larger than the rest it can just say so and take up space belonging to other cells. So we have something like shown in the images below.

The numbers shows the direct contents of the Grid layout. These are cells inside the grid. Together they form a grid.



StackLayout

StackLayout - arranges its contents so that only one is visible at any particular time, the rest are hidden, behind it, so to speak. Each of the items is called a stack item.

Import layouts

To start using layouts in any qml file, you will need it imported in that qml file.

```
import QtQuick.Layouts 1.3
```

The digit after the dot corresponds with you QtQuick import. eg:

If you import *QtQuick 2.12*, you should import *QtQuick.Layouts 1.12*, for *QtQuick 2.13*, you import *QtQuick.Layouts 1.13*, and so on. Going back to *QtQuick 2.11*, *QtQuick.Layouts 1.4* is used and not (*QtQuick.Layouts 1.11*), from *QtQuick 2.10*, *QtQuick.Layouts 1.3* is used and so on.

So, the top most of your qml file looks like this at the least, if you want to work with layouts.

```
import QtQuick 2.12
import QtQuick.Layouts 1.12
```

From now on you can start declaring qml layout type, like we have explained about above.

Layout

Layout type exists only to provide properties to use when defining your layouts. Actually all the other layout types inherit from this basic type. You will not use it directly. When studying the other types you will see it being declared as

```
Layout.fillwidth: true
```

NB: Qml object types always start with an uppercase letter.

ColumnLayout

ColumnLayout description

RowLayout

RowLayout description

GridLayout

GridLayout description

StackLayout

StackLayout description