**INF 1511 – Revision notes – Chapter 8**

1. **Using Radio Buttons**

Radio buttons are used to allow a user to select only one option from two or more options.

Radio buttons provide the following methods;

isChecked() - returns true if the button is in selected state.

setIcon() - used to display an icon with the radio button.

setText() - used to set the text of the radio button. To specify a shortcut key for the radio button, precede the preferred character in the text with an ampersand (&).

setChecked() - pass the Boolean value true to this method to make the radio button the default.

Radio buttons emit the following signals;

toggled() - emitted whenever button changes its state from checked to unchecked or vice versa.

clicked() - emitted when a button is activated (i.e., pressed and released) or when its shortcut key is pressed.

stateChanged() - emitted when a radio button changes its state from checked to unchecked or vice versa.

1. **Using Checkboxes**

Check boxes allow the selection of more than one option.

Checkboxes provide the following methods;

isChecked() - returns true if the checkbox is checked; otherwise returns false.

setTristate() - pass Boolean value true to this method to use the “no change” state of the checkbox. With this state, you give the user the option of neither checking nor unchecking a checkbox.

setIcon() - used to display an icon with the checkbox.

setText() - used to set the text of the checkbox. To specify a shortcut key for the checkbox, precede the preferred character with an ampersand in the text.

setChecked() - pass Boolean value true to this method to make the checkbox checked by default.

Checkboxes emit the following signals;

toggled() - the signal is emitted whenever a checkbox changes its state from checked to unchecked or vice versa.

clicked() - the signal is emitted when a checkbox is activated (i.e. pressed and released) or when its shortcut key is typed.

stateChanged() - the signal is emitted whenever a checkbox changes its state from checked to unchecked or vice versa.

1. **ScrollBars**

Scrollbars are used for viewing documents or images that are larger than the view area.

There are two types of scrollbars, **HorizontalScrollBar** and **VerticalScrollBar**.

A ScrollBar has the following controls:

**Slider handle**: Used to move to any part of the document or image quickly.

**Scroll arrows:** arrows on either side of the scrollbars that are used to accurately navigate to a particular place in a document or image.

**Page control:** The page control is the background of the scrollbar over which the slider

handle is dragged.

Scrollbars provide the following methods;

value() - retrieves a value that indicates the distance of the slider handle from the start of the scrollbar.

setValue() - sets the value of the scrollbar and hence the location of the slider handle in the scrollbar.

minimum() - returns the minimum value of the scrollbar.

maximum() - returns the maximum value of the scrollbar.

setMinimum() - sets the minimum value of the scrollbar.

setMaximum() - sets the maximum value of the scrollbar.

setSingleStep() - sets the single step value.

setPageStep() - sets the page step value.

Scrollbars emit the following signals

valueChanged() - emitted when the scrollbar’s value is changed.

sliderPressed() - emitted when the user starts to drag the slider handle.

sliderMoved() - emitted when the user drags the slider handle.

sliderReleased() - emitted when the user releases the slider handle.

actionTriggered()Emitted when the scrollbar is changed by user interaction.

1. **Sliders**

Sliders are used to represent some integer value.

There are two types of Sliders, HorizontalSlider and VerticalSlider.

Sliders emit the following signals

valueChanged() - emitted when the scrollbar’s value is changed.

sliderPressed() - emitted when the user starts to drag the slider handle.

sliderMoved() - emitted when the user drags the slider handle.

sliderReleased() - emitted when the user releases the slider handle.

The following methods are used to set positions of the sliders;

setTickPosition() - sets the position of tickmarks.

setTickInterval() - specifies the number of ticks desired.

tickPosition() - returns the current tick position.

tickInterval() - returns the current tick interval.

1. **Working with a List Widget**

The List widget is used to list items, the items can then be viewed, added to and removed from the list.

The list widget provides the following methods;

insertItem() - inserts a new item with the specified text into the List widget at the specified row.

insertItems() - inserts multiple items from a list of supplied labels, starting at the specified row.

count() - returns the count of the number of items in the list.

takeItem() - removes and returns item from the specified row in the List widget.

currentItem() - returns the current item in the list.

setCurrentItem() - replaces the current item in the list with the specified item.

addItem() - inserts an item with the specified text at the end of the List widget.

addItems() - inserts items with the specified text at the end of the List widget.

clear() - removes all items and selections in the view permanently.

currentRow() - returns the row number of the current item. If there is no current item, it returns the value -1.

setCurrentRow() - selects the specified row in the List widget.

item() - returns the item at the specified row.

List widget emits the following signals

currentRowChanged() - emitted whenever the row of the current

item changes.

currentTextChanged() - emitted whenever the text in the current

item is changed.

currentItemChanged() - emitted when the focus of the current

item is changed.