

STANDARD WIDGET TOOLKIT

Óscar Darías Plasencia
Sergio García de la Iglesia

INDEX

- **Introduction**

- What is SWT and why does it exist?
- Libraries
- SWT vs Swing
- How to use it
- Basics elements

- **In deep**

- Creating a Java application using SWT
- Positioning widgets
- A bit more complex examples
- Event oriented programming
- Final examples

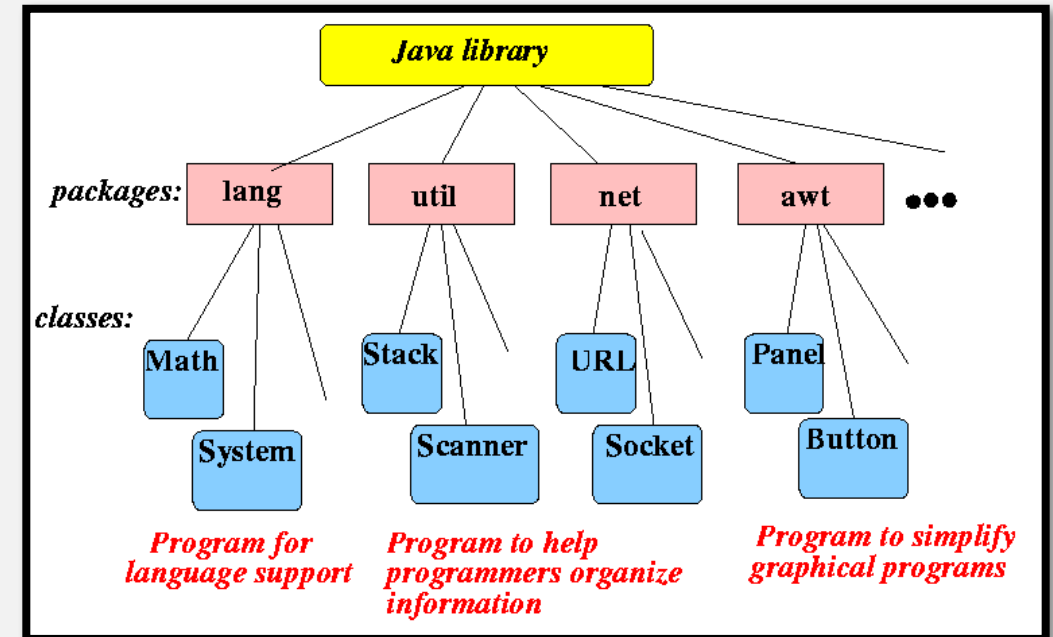
INTRODUCTION

I. WHAT IS SWT AND WHY DOES IT EXIST?

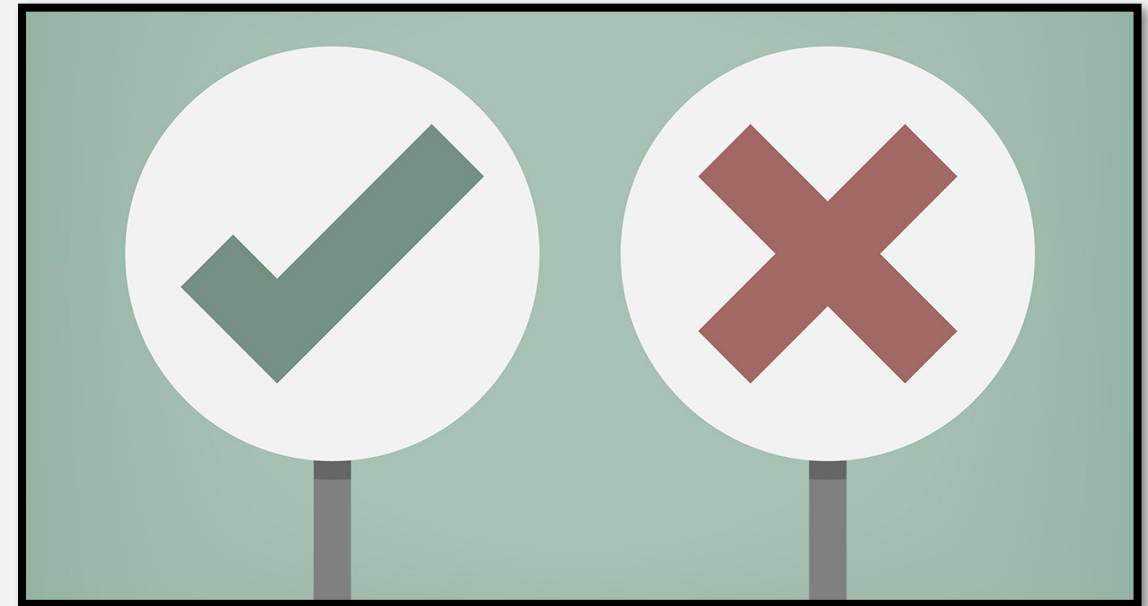
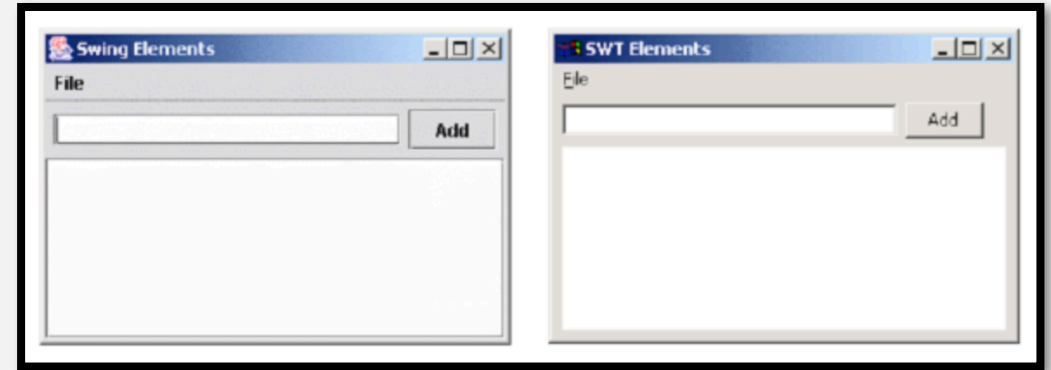
“Retrieves the original idea of the AWT library to use native components”



2. LIBRARIES



3. SWT VS SWING



4. HOW TO USE IT

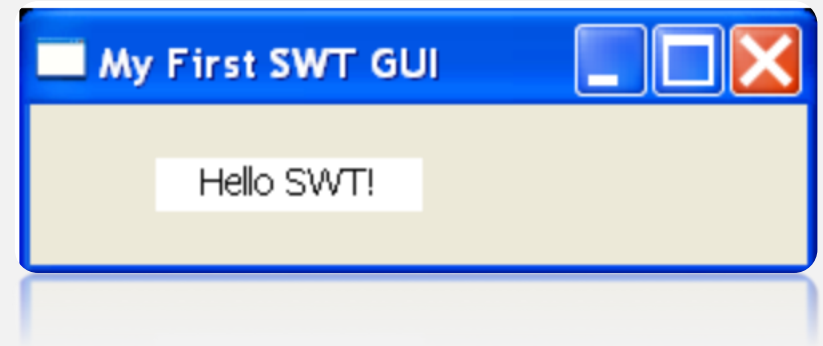
5. BASICS ELEMENTS

Shell

Display

Main Widgets

Basic Container



Line 2|



Combo

One

Button (SWT.PUSH)



DateTime

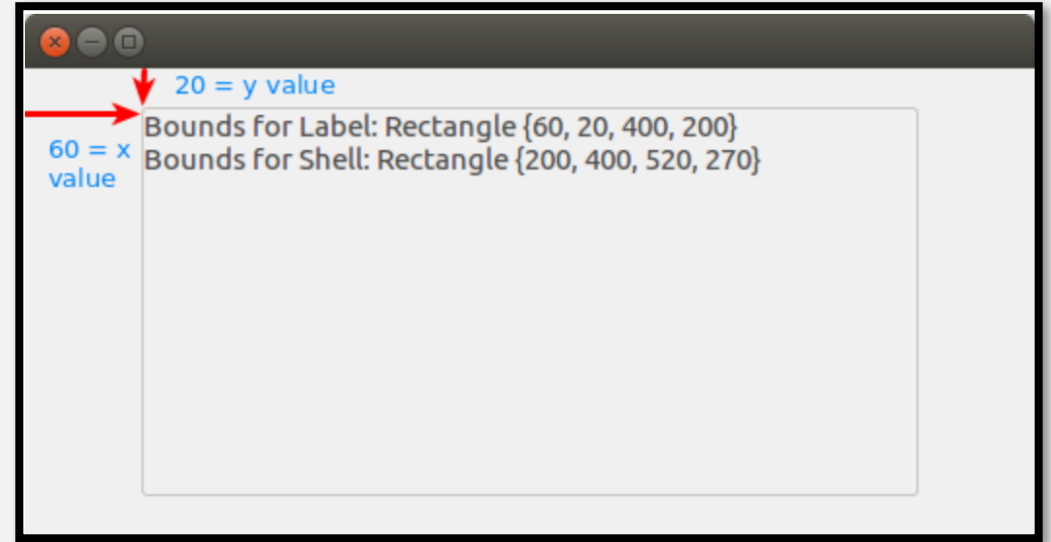
Jack and Jill went up
the hill to fetch a pail
of water, Jack fell
down and broke his
crown and Jill came
tumbling after!

Label

IN DEEP

I. CREATING A JAVA APPLICATION USING SWT

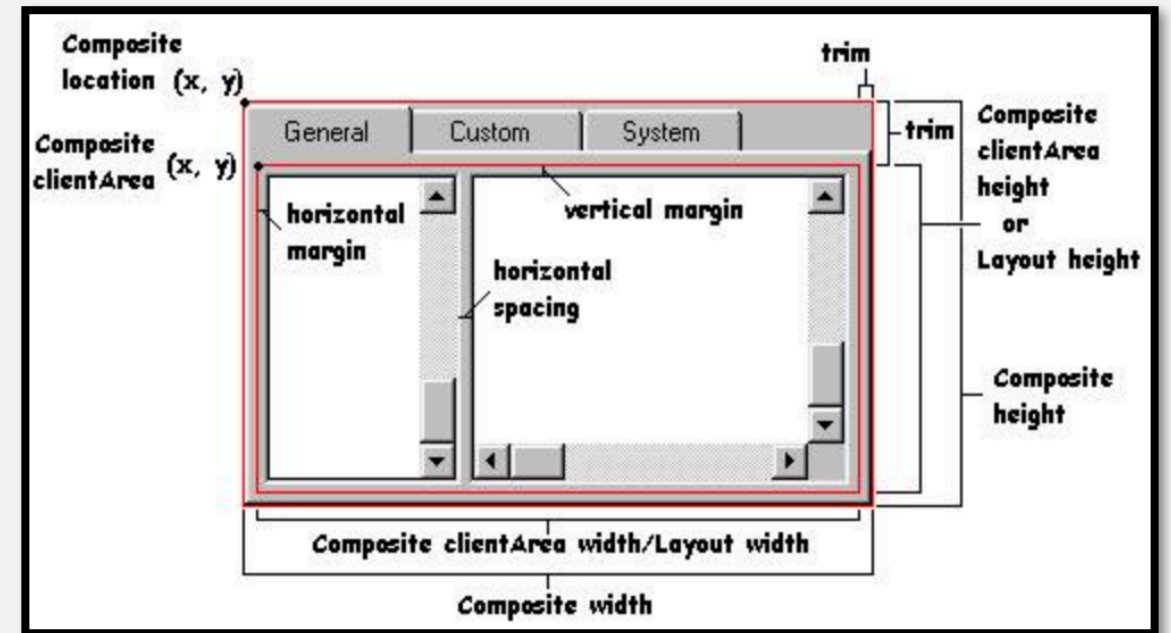
2. POSITIONING WIDGETS



`setBounds` defines both position and size. You can also use `setLocation` and `setSize` to define the position.

3. LAYOUTS

- FillLayout
- RowLayout
- GridLayout
- FormLayout



4. A BIT MORE COMPLEX EXAMPLES

5. EVENT ORIENTED PROGRAMMING

5.1 SWT Events

- SWT uses the observer design pattern based event model.
- Multiple listeners can be registered to be notified.
- In SWT, only Widgets and Displays can have event listeners.

5. EVENT ORIENTED PROGRAMMING

5.2 Types of listeners

- **Untyped listeners** can lead to smaller code.
 - offer a generic, low-level mechanism to listen for events.
- **Typed listeners** lead to more modular designs.
 - can be used to listen for only one particular typed event. For example, `SelectionListener` is a typed listener for event `SelectionEvent`.

5. EVENT ORIENTED PROGRAMMING

5.2.1 Untyped listeners

- The untyped listener interface is represented by the Listener interface
- It contains one method: void handleEvent(Event event)
- To add an untyped listener to a widget, call addListener() on it.

```
void addListener(int eventType, Listener listener)
```

- eventType contains one of the event type constants from the SWT class.

5. EVENT ORIENTED PROGRAMMING

5.2.2 Typed listeners

- Typed listeners use classes and interfaces specific to each possible event.
- All typed events ultimately derive from a common class: `TypedEvent`.
- Some examples:
 - `ControlListener`
 - `KeyListener`
 - `MouseListener`
 - `MouseListener`
 - And more...

6. FINAL EXAMPLES

ANY QUESTION?

REFERENCES

- Eclipse Documentation
 - <https://www.eclipse.org/swt/>
- Vogella Tutorial
 - <http://www.vogella.com/tutorials/SWT/article.html>
- ZenCode Tutorial
 - <http://zetcode.com/gui/javaswt/>
- Wikipedia
 - <https://es.wikipedia.org/wiki/SWT>

THANK YOU