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GUIs in Lisp

Common Lisp Native GUI Toolkits

- McCLIM

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- ... that's about it.

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Other languages offer alternatives

- Qt
- Gtk
- Ltk
- Swing
- etc.

Qt

- Gigantic
- Well-documented
- Cross-platform

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Smoke

- Generates C wrappers for C++
- Can also handle Qt

CommonQt

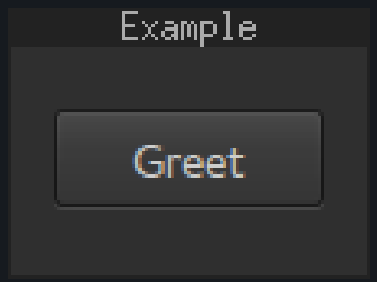
- Runs with CCL, SBCL on Windows, Mac, Linux
- Actively supported
- It Just Works™

CommonQt

- Runs with CCL, SBCL on Windows, Mac, Linux
- Actively supported
- It Just Works™
- Awkward to use

An Example

```
CL-USER> (with-main-window (window (make-instance 'els)))
"Hello to ELS from Qt!"
```



```
(defclass els ()
  ((button))
  (:metaclass qt-class)
  (:qt-superclass "QWidget")
  (:slots ("buttonPressed()" button-pressed)))

(defmethod initialize-instance :after ((els els) &key)
  (new els)
  (#_setWindowTitle els "Example")
  (let ((button (#_new QPushButton "Greet" els))
        (layout (#_new QHBoxLayout els)))
    (setf (slot-value els 'button) button)
    (connect button "released()"
             els "buttonPressed()")
    (#_addWidget layout button)))

(defmethod button-pressed ((els els))
  (print "Hello to ELS from Qt!"))
```

```
(define-widget els (QWidget)
  ())

(define-subwidget (els button) (q+:make-qpushbutton "Greet"))

(define-subwidget (els layout) (q+:make-qhboxlayout els)
  (q+:add-widget layout button))

(define-slot (els button-pressed) ()
  (declare (connected button (released)))
  (print "Hello to ELS from Qt!"))
```

Qtools

- Started out as collection of utilities
- Grew into a full convenience layer
- Now makes writing GUIs look normal
- Tries to take care of C++ garbage
- And all sorts of other things

https://shinmera.github.io/qtools

Available on Quicklisp