

# Red GUI Architecture

[Overview] | [../images/view-overview.png](#)

## VID

VID stands for Visual Interface Dialect. It is a dialect of Red, providing the simplest possible way to specify graphic components with their properties, layouts and even event handlers. VID code is compiled at runtime to a tree of faces suitable for displaying.

## View

The GUI code engine contains several parts:

- Platform-independent faces management engine
- Reactive actions events
- Draw dialect interpreter
- Platform-specific backends

## React

Reactive actions can be defined from VID dialect or specified directly using the REACT function.

## Draw

Draw is a Red dialect for 2D vector drawing. It can be specified in different ways:

- in VID layouts
- directly in the `draw` property of any face object
- using the DRAW function to draw directly onto an image

## Platform-specific backends

An internal API allows multiple backends (OS/graphic system combinations) so that the View engine can be implemented in different environments. Each backend must be capable of extensive 2D drawing for complete support of Draw dialect.

### *Disclaimer*

The initial designs of VID, Draw and most of View (except for the reactive parts) were created by Carl Sassenrath and implemented in Rebol. Red View is a completely new, independent implementation providing similar features with some desirable improvements. Reactive actions being a prime example.