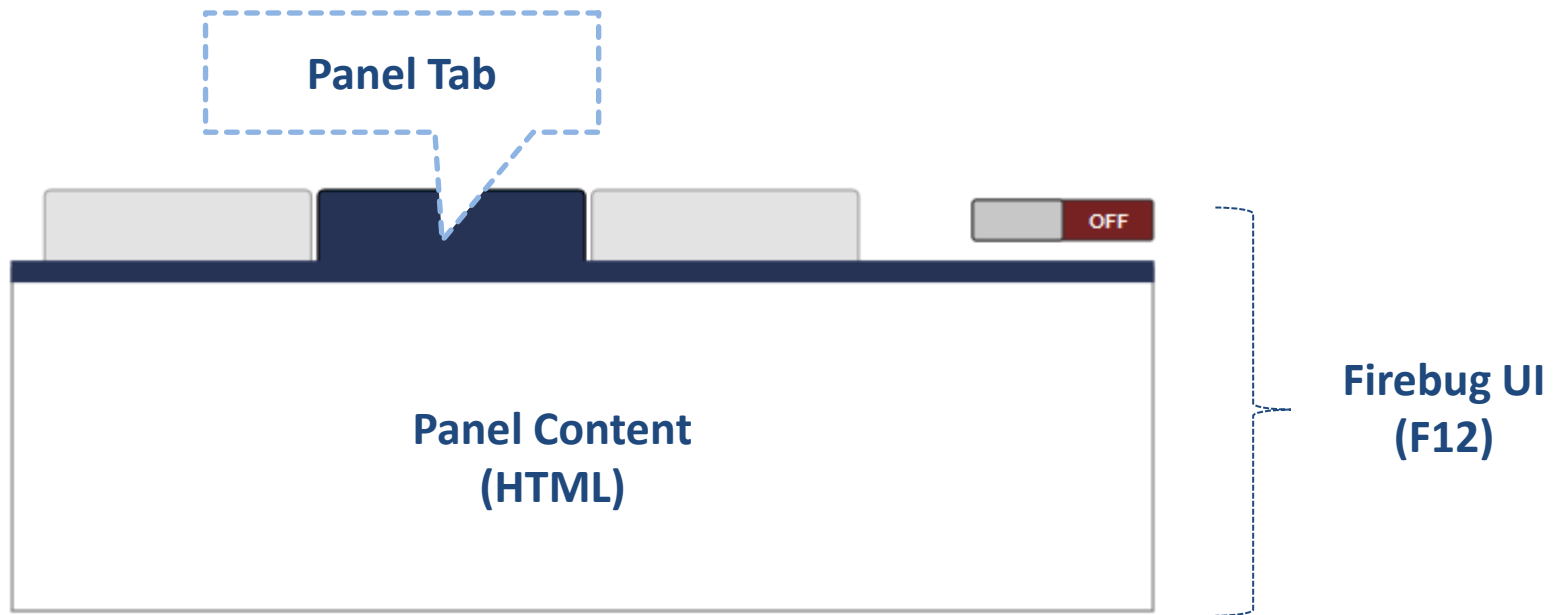


Firebug Architecture Highlights

Jan Odvarko

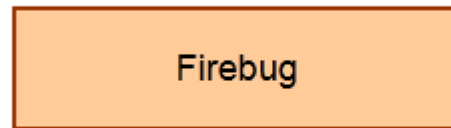
London, September 2012

Basic Terminology



Singleton Pattern

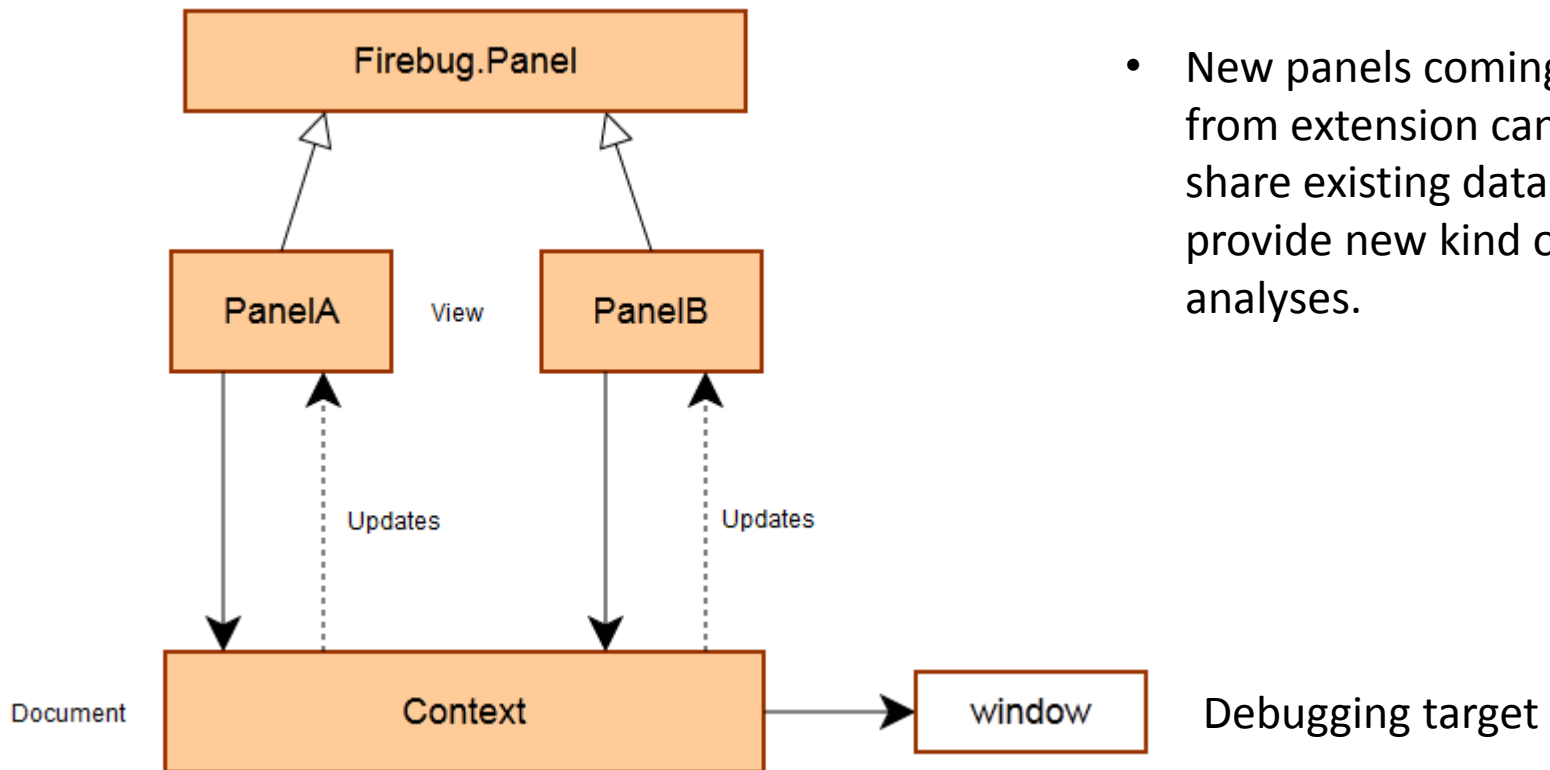
- Firebug is the root object (one per browser window)
- This object holds reference to all the other objects.



```
Firebug.registerPanel (...)  
Firebug.registerModule (...)  
Firebug.registerStylesheet (...)  
Firebug.registerShortcuts (...)
```

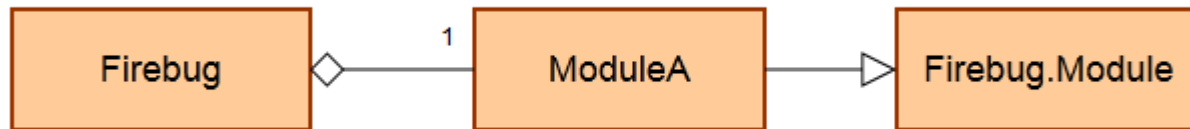
Document View Pattern

- Panels share the same document/context.
- New panels coming from extension can share existing data and provide new kind of analyses.



Application Life-Cycle

- It's always necessary to do some initialization steps at the beginning and clean up at the end.



*One module
per browser
window*

```
Module.initialize()  
Module.destroy()
```

*A module often
represents a back-end
service*

ModuleA

```
var ModuleA = extend(Firebug.Module,  
{  
  initialize: function()  
  {  
  },  
  
  shutdown: function()  
  {  
  
  },  
});
```

```
Firebug.registerModule(ModuleA);
```

Page Life-Cycle

- Tools (panels) often collect meta-data about the page



*One panel
per web
page*

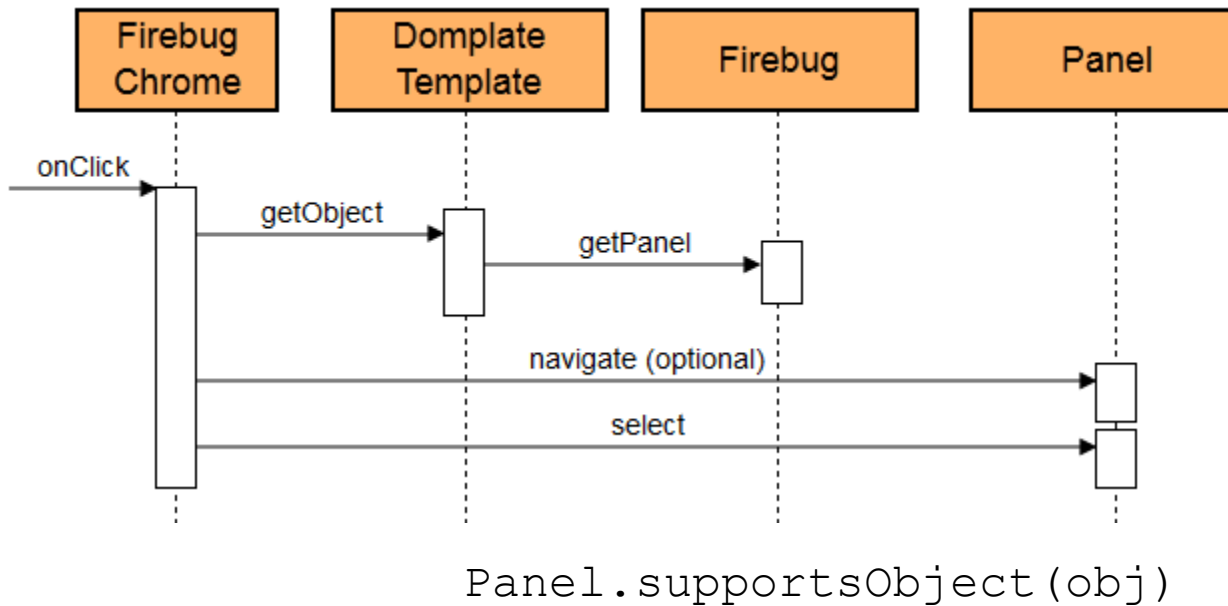
```
Panel.initialize(context, canvas)  
Panel.destroy()
```

PanelA

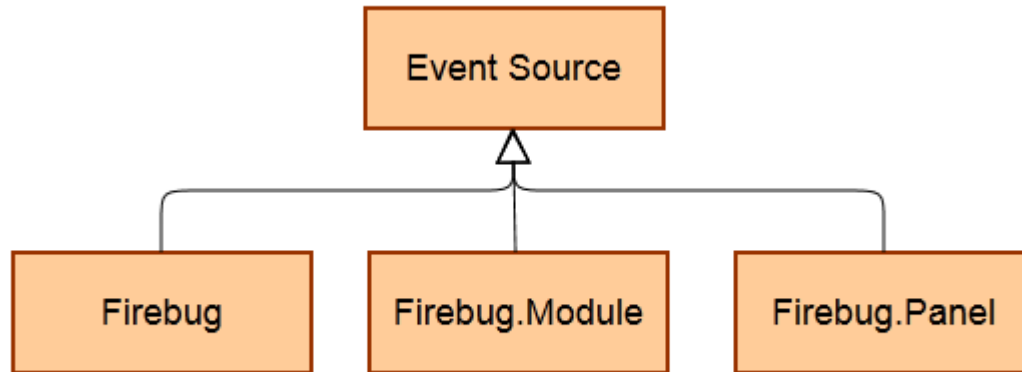
```
function PanelA() {};  
  
PanelA.prototype = extend(Firebug.Panel,  
{  
  name: "PanelA",  
  searchable: true,  
  
  initialize: function()  
  {  
  },  
  
  destroy: function(state)  
  {  
  },  
});  
  
Firebug.registerPanel(PanelA);
```


Navigation & Selection

- A panel knows how to deal with certain objects types
- Clicking on an object (e.g. <element>) navigates the user to the appropriate panel



Event Sources & Listeners



Net Panel

`onModifyRequest()`
`onExamineResponse()`
`onBodyReceived()`

Console Panel

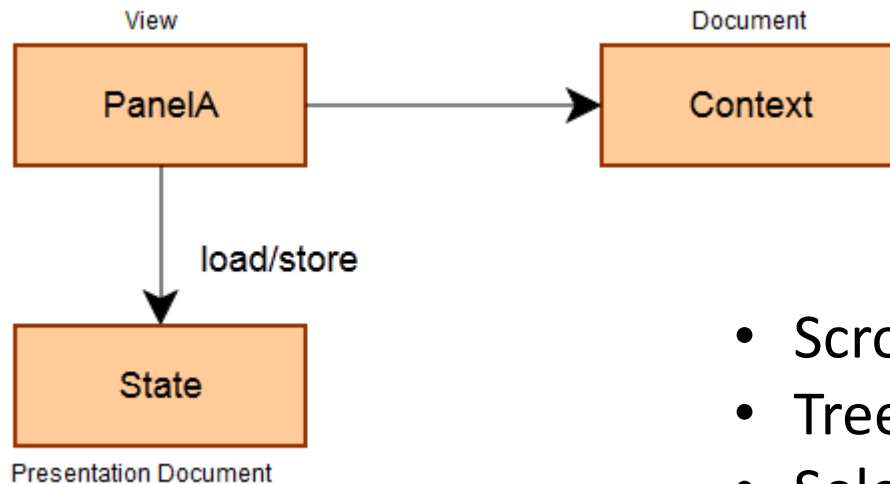
`onLog()`

HTML Panel

...

Presentation Data

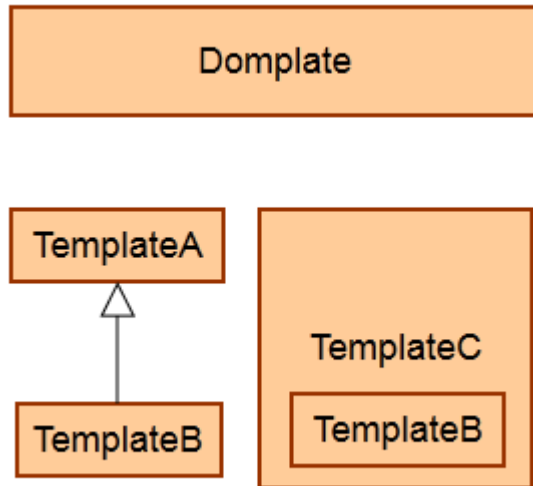
- A panel often needs to maintain presentation data → visual state.



- Scroll position
- Tree (expanded) state
- Selection

Unified Rendering

- Each panel uses HTML to render its content



- It's possible to reuse existing templates (also in extensions)
- Inheritance/composition
- Firebug maintains whole repository of templates.

```
Firebug.registerRep(...)  
Rep.supportsObject(obj)
```