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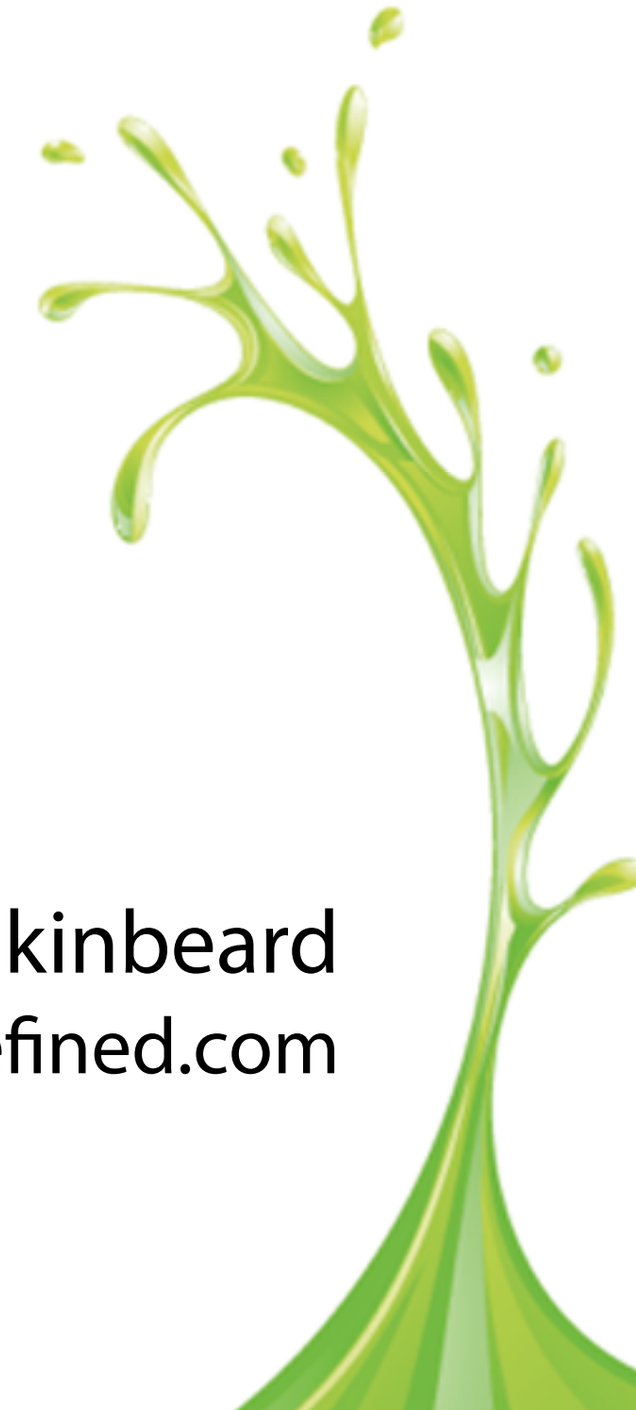
Creating Flexible Components for Reuse and Distribution



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Who is this guy?

- Design degree... whoops
- ActionScript 1 == first programming language
- Design agency to Fidelity Investments to UM
- Flex 2 Beta 2

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What are we going to cover?

- Building single-use components (usually) sucks
- Weigh the benefits and use good judgment
- Components should be:
  - easy to utilize
  - reusable
  - customizable
  - style friendly
  - useful (not just usable)

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Why?

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You

- **Good:** Creating new components and applications

- **Bad:** Supporting old components

- **Worse:** Not supporting old components and getting hypothetically fired

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People using your component

- **Good:** Your component just works
    - Discovery of depth and elegance can/should happen later
- **Bad:** It takes 15 minutes of reading docs and code to get up and running

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OK smart guy, how?

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flexmdi

- Project site - *http://code.google.com/p/flexmdi/*
- Brian Holmes - *http://brianjoseph31.typepad.com/smashedapples/*
- Brendan Meutzner - *http://www.meutzner.com/blog/*

- Conceived at 360|Flex Seattle, August 2007
- Released September 2007
- News at 11:00

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Composition over “in there”-itance

- Division of responsibilities
    - Classic tenet of OOP and common refactoring tactic
- One component != one class
- Expose modularity / assignment
    - MDIWindowControlsContainer
    - flexmdi effects

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Hide the details

- Another core principle of OOP - Encapsulation
- Less exposure means more freedom to change but...
- Don’t be stingy
- Automate tedious tasks
    - MDICanvas
    - mdiManager.windowEventProxy()

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Providing default behaviors (your job)

- Listen for own events
- Low priority listener to ensure late/last execution
- EventPriority.DEFAULT_HANDLER:int = -50
    - addEventListener(type:String, listener:Function, useCapture:Boolean = false, **priority:int = 0,** useWeakReference:Boolean = false);
- Events must be cancelable
    - Event(type:String, bubbles:Boolean = false, **cancelable:Boolean = false**);

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Modifying default behaviors (their job)

- "Normal" listeners will get called first
  - mdiWindow.addEventListener(MDIManager.WINDOW_CLOSE, onWindowClose);
- Cancel default handler with event.preventDefault()
- Use event.clone() to store copy for later execution

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Executing default behaviors (your job)

- Default handler is public for delayed / manual calls
    - mdiManager.executeDefaultBehavior(event);
- Behavior is conditional
    - if(!event.isDefaultPrevented())

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Follow conventions

- Use life cycle functions when possible / appropriate
  - MDIWindowControlsContainer
- Styles as styles
- Metadata...

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Provide default styles

- Static initializer
    - private static function initializeStyles(){...}
    - private static var stylesInitialized():Boolean = initializeStyles();
- Docs are wrong - use defaultFactory(), not setStyle()
    - MDIWindow.classConstruct();

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Metadata (is mandatory)

- Compiler instructions
- Code completion and MXML assignments

- [Event(name=”minimize”, type=”flexmdi.events.MDIWindowEvent”)]
- [Style(name=”closeBtnStyleName”, type=”String”, inherit=”no”)]
- [Bindable]

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Make things easy

- Expose things the framework doesn't
  - mdiWindow.getTitleTextField()
- Proxy properties
  - mdiCanvas.enforceBoundaries
- Provide base implementations
  - MDIEffectsDescriptorBase

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Thank you!

(tip your waitress)