Enabling Large Scale Applications in AngularDart

*Status: (Draft)*

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# Objective

Angular makes it easy to get started, which is its strength. As the application gets large there are areas which don't scale with same level of ease as others. This are the areas which this document tries to rethink.

What are the issues of large scale applications built with Angular:

* Not knowing when when the bindings are done
  + DOM read/write
* Unpredictable flow of data
  + When can I do X? when is binding done/stable?
* Intermittent values in reaction functions
* Asynchronous reaction function processing
  + Multiple pass through digest

# Goals

For applications to be scalable to large teams the following statements should be true:

* Application behavior should not be dependant on the presence of HTML bindings
  + PROBLEM: backwards propagation of data
  + PROBLEM: App structure defined by DOM
* Rendering HTML should be optional, meaning that DOM renderings can be coalesced, or skipped.

# The New World

* Data should flow in DAG.
* Apply is the backward propagation of data
* Digest is forward propagation of structure
* Flush is the rendering of the DOM.

# Background

Stuff one needs to know to understand this doc: motivating examples, previous versions and problems, links to related projects/design docs, etc. You should mention related work if applicable. This is background; do not write about ideas to solve problems here.

# Prior Art

List of existing solutions and their corresponding strong/weak points.

# Detailed Design

Details on how you’ll implement. Should be in sufficient detail for other engineers to materially comment on structure to affect the end result.

# Caveats

You may need to describe what you did not do or why simpler approaches don't work. Mention other things to watch out for (if any).

# Security Considerations

How you’ll be secure

# Performance Considerations / Test Strategy

How you’ll be fast.

# Work Breakdown

Description of development phases and approximate time estimates.