Graphs!

Because PNGs and SVGs are so last century :)

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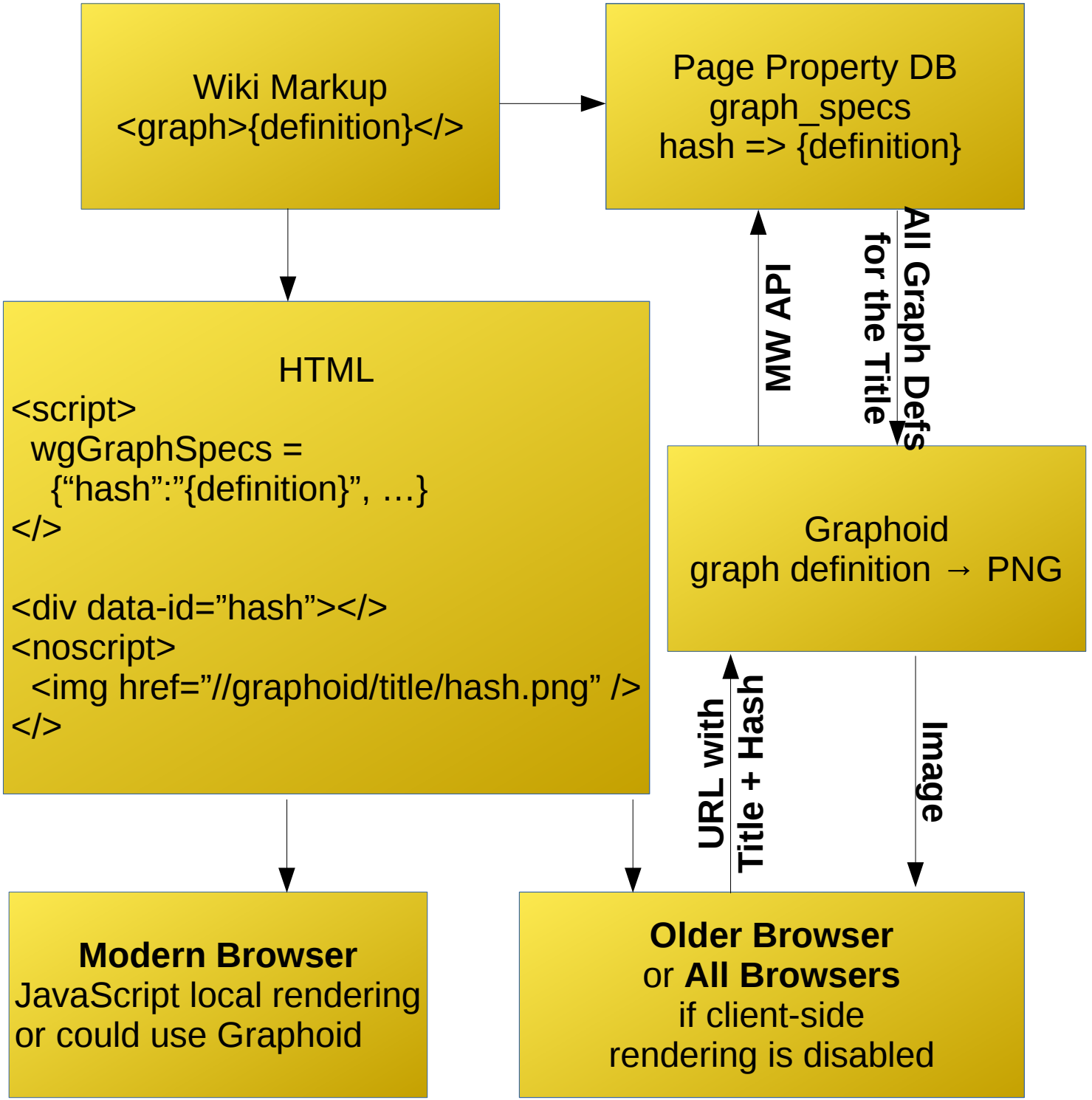
Overview

- <graph> tag with the {graph definition}
  - Supports Vega JS grammar, developed at U of W
  - Supports template parameters & expressions
- Resolved graph definition is stored in page props
- Rendered by client or server (Graphoid)
  - Client has hover, but no animation yet
  - Server is much faster
  - Only edit preview is on client ATM


Wiki Markup
<graph>{definition}</>
Page Property DB
graph_specs
hash => {definition}
MW API
All Graph Defs
for the Title
HTML
<script>
wgGraphSpecs =
{“hash”:”{definition}”, …}
</>
</>
<noscript>

</>
Graphoid
graph definition → PNG
URL with
Title + Hash
Image
Modern Browser
JavaScript local rendering
or could use Graphoid
Older Browser
or All Browsers
if client-side
rendering is disabled

Vega

- Data Sources
  - Embedded
  - URL (json/csv/topojson)
- Transformations
  - Supports some JavaScript expressions
  - Data Manipulation Transforms (filter,cross,zip, unique,...)
  - Visual Encoding Transforms (Geo, Pie, Stacked)

Scales

- A set of converter functions
- Transforms domain of data values to a range of visual values
  - From: numbers, dates, strings, ...
  - To: pixels, colors, sizes

Marks

- Draws the data
  - Uses Scales to assist in converting to screen

Lets get Creative

- Data embedded directly
  - “values”: [{“id”: “a”, “v”: 10}, {“id”: “b”, “v”: 20}, ...]
- Data in external URL
  - “url”: “/wiki/Page?action=raw
- Template params
  - {… “width”: {{{width|400}}}, … }
- Lua-generated
  - Lua prepares the data and passes it as a parameter
  - {{MyGraph | {{#invoke:graph|func|pageWithData|params}} | ...}}
- API
  - Only via external URL, but I wish for Lua to access it directly
  - “url”: “/w/api.php?format=json&action=query&...”

DEMO