

Dashboard Framework for OpenMRS

This is a concept note document about Dashboard Framework feature in OpenMRS.

Note:

PUBLICLY VIEWABLE DOCUMENT

Document Status: Under Research

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Objectives

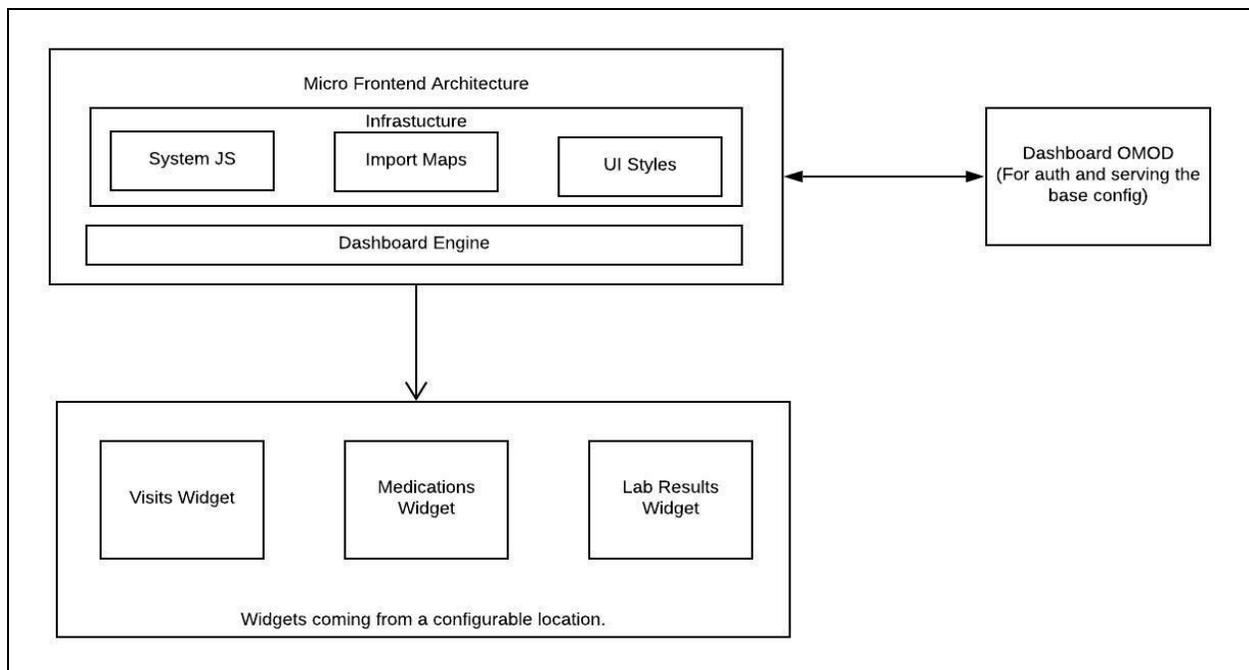
The objective of this document is to propose a dashboard framework that will enable implementers to configure the dashboards based on their requirement. This dashboard will be composed of a Dashboard Engine and multiple widgets. The dashboard engine will be independent of widgets. The implementers should be able to add custom widgets just by adding a dashboard-config.json.

Requirements

- Implementers should be able to configure multiple dashboards based on their need.
 - The dashboard can be defined for 2 primary targets - Care Provider & Patient
 - There can be multiple dimensions applicable for a dashboard
 - Care provider dashboard - e.g program & profile, location/level
 - Patient dashboard - episode of care, OPD/IPD dashboard, program dashboard
- For example, they should be able to configure Patient Dashboard, User-Centric Dashboard, Role-Based Dashboard & etc.
- Each dashboard can be configured to have multiple widgets.
 - Every widget is responsible to fetch the data shown in the widget.
 - The dashboard engine will provide infrastructure or set standards for basic stuff like HTTP calls, common charting library, basic layout, the grouping of widgets & etc.
 - The data in widgets should get refreshed automatically after a particular interval. This interval should be configurable for every widget.

Technical Solution

Below is an architecture diagram illustrating the solution:



Dashboard OMOD: This is an OpenMRS Module, which will serve the dashboard configurations stored at a specific location on the server. The omod will also make sure that the logged-in user has privileges to view the requested dashboard.

Dashboard Engine: This will be an ESM package, capable of loading widgets dynamically from a given path on the server with the help of System JS. The landing page of the dashboard engine will make a request to Dashboard OMOD for the specific dashboard. From the response, it will read all the widgets configured for the dashboard and initialize them on the landing page.

Widgets: The individual widgets can also be independent ESMs. Each widget is responsible for fetching the data and rendering it on the screen. The widgets can be configured to refresh its data at specific intervals.

Deployment Strategy: The dashboard engine will be an ESM published to NPM. It can be bundled as an OWA along with a simple index.html file. All the widgets will be put at a specific location on the server and the dashboard engine will load on demand.

Technologies

- ES 6
- React 16.9
- Micro frontend architecture
- Webpack
- Charting - C3