Phantom Bookmarks TDD

# Overview

The aim is to design an online bookmark manager, that the user can add, edit & delete bookmarks from, given the appropriate cues when necessary i.e success, deletion confirmations & input error handling, while being restricted from using any backend technologies to persist the data.

# Solutions Design

**Main goals**

* Use Angular 9 as the frontend framework
* Persist the data using subjects with a localStorage & cache key mechanism
* Light & Dark theme
* Pagination module & class

The first step to take will be to ensure that the theming is in place as all the components & styles will extend/be built off this, to achieve this effect I shall leverage the use of SCSS mixins, with a theme function that is initialized at the root styles.scss, this will also be a good time to setup the overall folder structure for the application.

In order to achieve the offline caching for the bookmarks, I shall build a service that utilizes the state management properties of BehaviourSubjects in parallel with the localStorage object, that can be accessed via a cache key tied to the service.

With regards to the display of the data, I will look to leverage the Angular components reusability to the best potential, this shall make maintaining & actually developing the application considerably easier – Due to the simplicity of this application there is no need to lazy modules, all functionality present is related to bookmarks so only one display module is required.

Pagination shall be achieved by creating a reusable class, that can have its page length customized, & will work with any flat array. It should be noted that a class base approach is taken here, for extendibility reasons having a singleton service for such functionality would not serve the application well for any future lists that require pagination.

# Restrictions & Concerns

**Restrictions present**

* Inability to use a backend server to store, serve, & paginate data.
* CORS security concern, due to the requirement to check if URL exists.