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Extending Tableau's Visualisation with Tableau Extension API

Using Vue.JS and Vuetify frameworks

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Agenda

- Why?
  - Why pursue this in the first place?
  - Why this can be useful?
- Tableau Extension API
- Aim
- The design
- Contributing
  - Needed

Why?

- Some chart types are not available natively in Tableau
- DB writeback is not available
- I know JavaScript and I find it interesting to dig in
- For Teradata?
  - Ability to display results of NPath, CFilter, etc.
  - Possible integration with AppCenter API for DB writeback

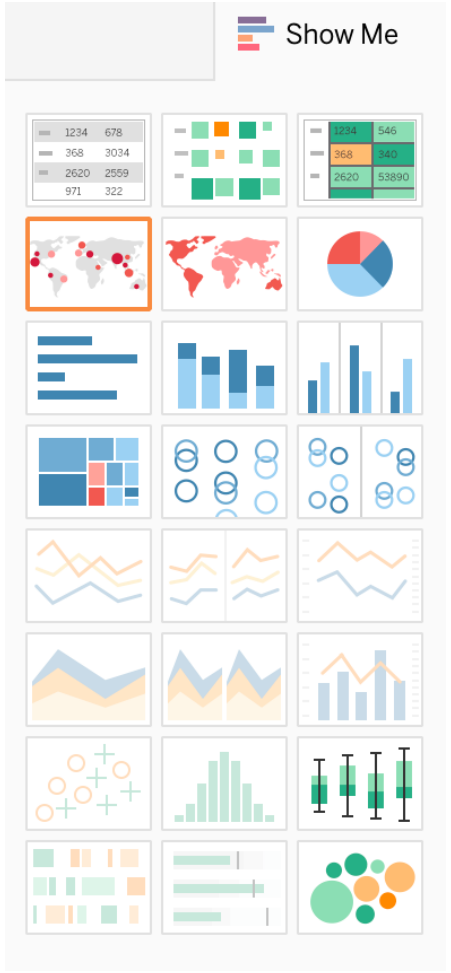

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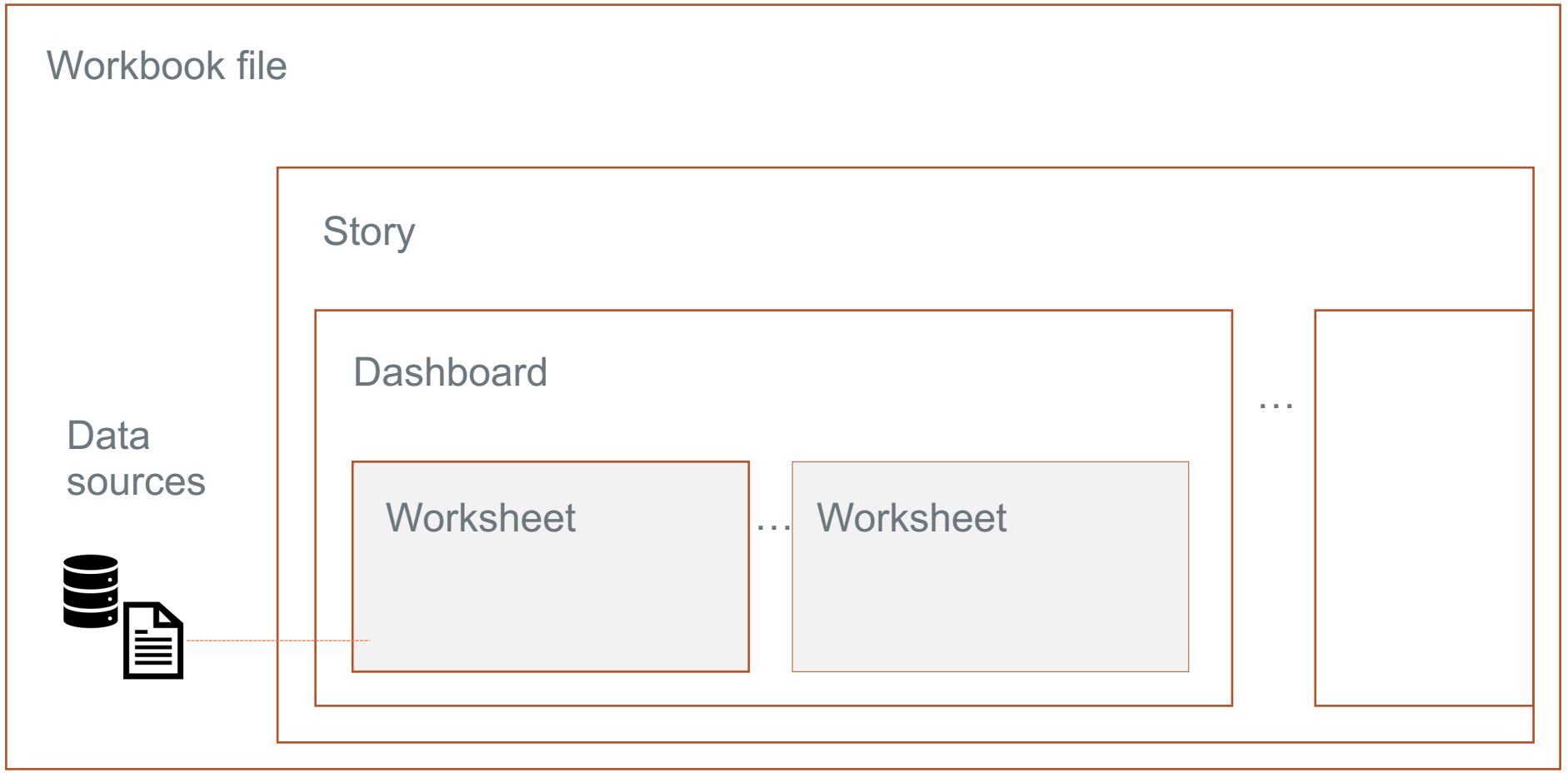
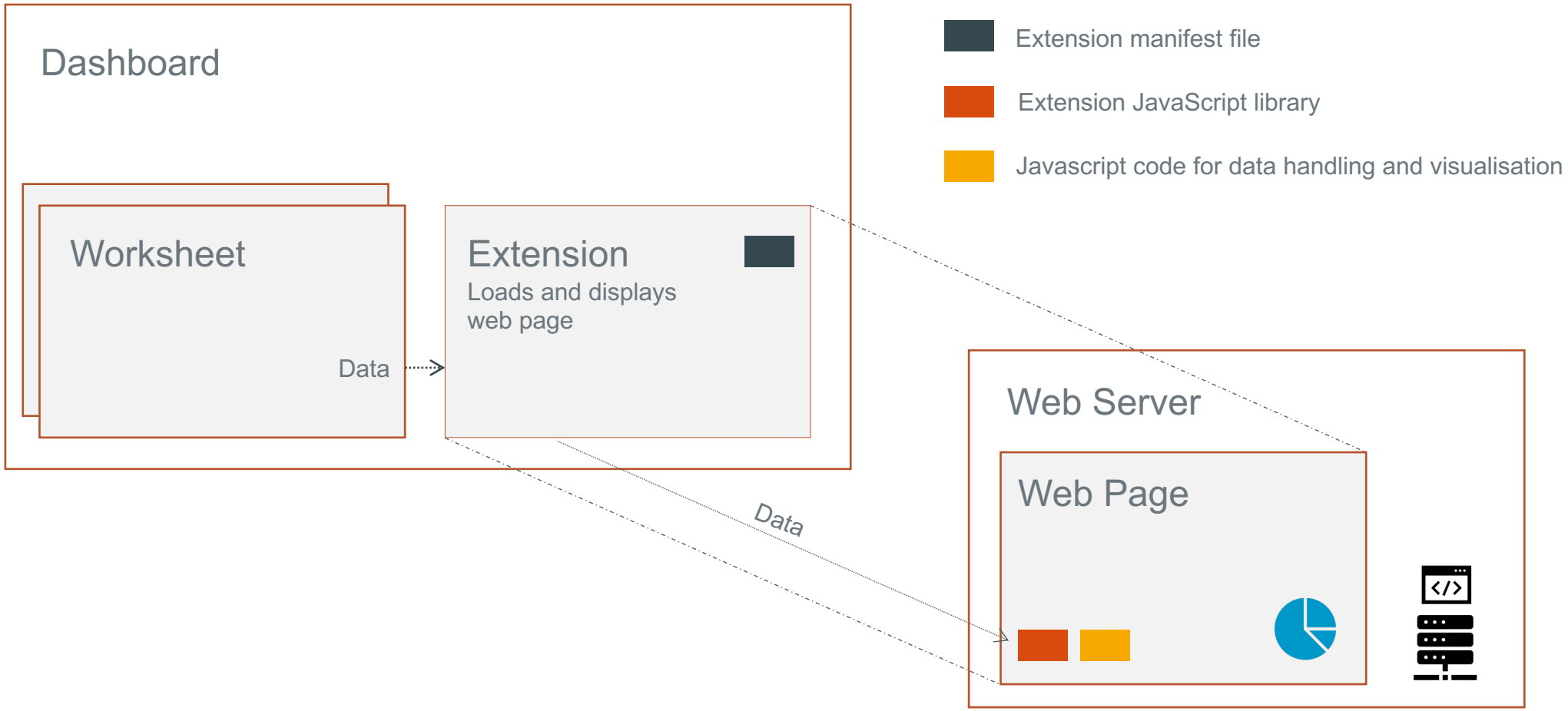
Tableau Structure



What Can You Get Tableau Extensions API

- List of worksheets in a dashboard
- Event notifications of:
  - A mark selected in a worksheet
  - Worksheet filter changed
  - Parameter changed
- *Full data of a worksheet
  - I don’t know yet if there is a limit of #rows
- Summary data of a worksheet
- Schema of the data

How It Works



Demo

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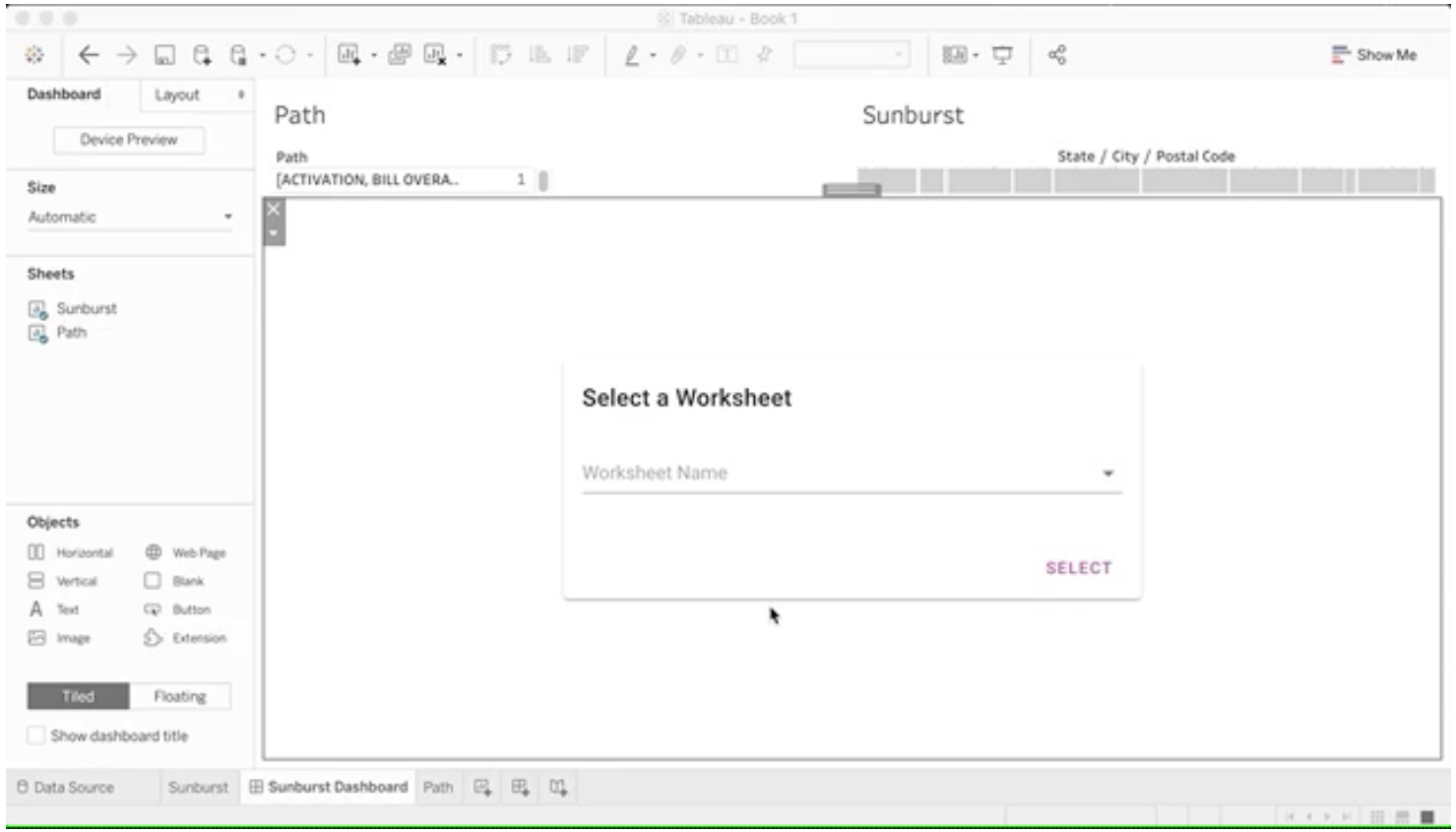

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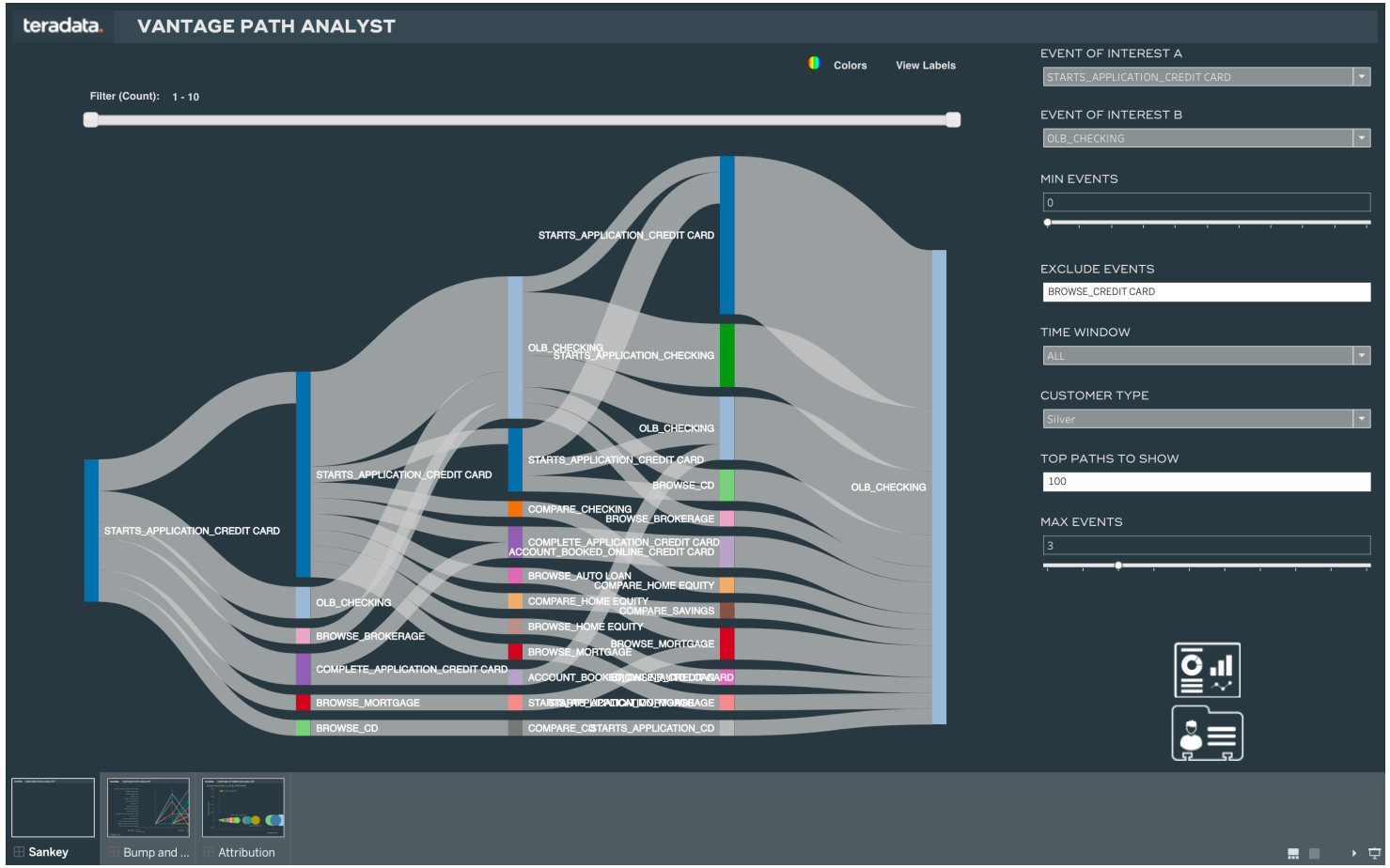
It Has Been Done by Someone in Teradata



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It Has Been Done Before by Someone in Teradata

But….

- It uses jQuery, an old framework
- Unclear on how to add a new visualisation types
- Not in a public/reachable GitHub repo – People can't collaborate to add features or maintain it
- Every visualisation type is a separate set of HTMLs and Javascript
- It does not abstract the handshaking
  - You need to copy-paste / reimplement them in your code for every new visualisations

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Maybe We Can Make This Better!

- Make it generic
- Make it easy to add a new visualisation
  - Let developers focus on data handling and visualisation code
    - The abstractions of communication in Tableau is handled centrally
  - Provide clearer instructions
  - Host different types of visualisation in one code base
- Put it in a public GitHub repo
  - This will benefit more people!
- Make it modern
  - Use modern, reactive UI framework such as Vue, Angular, and React

Current Way to Add New Type of Visualisation

These has been done

App.vue

Load Tableau Extension library
API Handshaking
Tableau event listener
Load custom components
Main container layout

VizMixins.js

Definition of data properties
Handling events

... And some other shared UI components

You only work with these

YourComponent.trex

Define where Tableau can load your viz
Store it in `/public` so users can download

Router

Define /path/to/visualisation
Under `src/router/index.js`

YourComponent.vue

Load visualisation library
Define expected columns
Define data parsing function
HTML Layout

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Learn These Before Contributing

Learn Javascript

Learn Vue

Learn Vuetify

And see the available charts for Vue here: https://madewithvuejs.com/blog/top-vue-js-chart-components

Code Display

- Code Display

Thank you.

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