User configurable Dashboard

Demo:

https://keshavnagpal.github.io/dashboard

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Contents

Objective

To create a user configurable dashboard using which user can drag & drop widgets to canvas to create a dashboard user needed.

And if required should be able to print or save as pdf.

Requirements

1. A JavaScript enabled web browser supporting HTML5
2. Working internet connection(optional)

Features and how to use

1. User can customize the dashboard by dragging and dropping widgets from the widget panel to the dashboard.
2. The dashboard is printable on user's command, so the user can save the dashboard as pdf or xps document or print it directly when he/she is done customizing by clicking on the print button and selecting the desired method.
3. User can remove a widget from the dashboard by dragging it back to the widget panel.
4. The grid on the dashboard is user customizable, he/she can add or remove rows and columns dynamically by clicking (+) and (-) buttons

near the respected rows and columns and the space on the dashboard equally divides between them.

5. Dashboard maker have both Landscape and Portrait modes which user can choose by clicking on Landscape or Portrait button on navigation bar.
6. Configuration of the dashboard is saved globally in the application for easier linking of Database in future.
7. The application works well on different resolution screens

Examples / Use cases

This can be deployed for the organizations or can be integrated in applications where every user need their custom report/dashboard.

Instead of developing or configuring the tool for every user need we can provide the ability to generate reports/ dashboards which align with their needs

Logic

Drag and drop

Implemented HTML5 drag and drop events to enable dragging and dropping of widgets from widget panel to dashboard. Made only the widgets elements drag-able which can be dropped on any drop-zone on the dashboard, initially there is only one but can be added or removed dynamically by resizing of grid.

Also the widget panel contains drop-zones which can be used to remove any widget from dashboard

Resizing of grid & adding/removing rows and columns

When the user clicks on the (+) or (-) button a function is called which Divides the row in the number of columns that it took as parameter, that number is kept into record, initially it is set to a value one when the page loads and when user click on (+) button then it is incremented and sent to the function as parameter and when user click on (-) button it se decremented and sent. The function then divides the row/dashboard into given number of parts and generates a different id and class for the elements dynamically.

Printing of Dashboard (when the print button is clicked)

- First a function saves the whole window content in a variable
- Then set the dashboard area as whole window content
- Prints the window
- Restore the original window saved in a variable earlier

Technologies and Frameworks used

- Used JavaScript with jQuery library to implement all the complex logic in the application in order to provide the desired functionality
- Drag & Drop features are implemented using HTML5's JavaScript functions
- Used Materialize.css framework to design the application

Ideas for Future

- The grid can be made fluidly resizable (using gridster.js)
- Multi-page configuration can be provided to make dashboards
- A database can be linked saving each users configuration
- Filter and search functionality can be provided for the widget library
- Speech input can also be integrated into this for filtering the widget and other user interactions
- Multiple versions of widgets can be created which are optimized for different page sizes

Things to consider for future development

- Complete configuration of the dashboard is stored in a global object named 'content'.
- if we want to link the configuration to the database that content object can be used to extract the current configuration of the dashboard.
- Any html element can be used instead of images for widgets.

Demo

- Dash-Board: https://keshavnagpal.github.io/dashboard
- Resizable widgets https://keshavnagpal.github.io/ResizeWidgets