RespTable: Lightweight Responsive Tables

Information Architecture and Web Usability
Group 3
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Responsive Table Libraries

- Display tables across different screen sizes.
- Enhance user experience by using responsive patterns.
- Using libraries saves time in development.
- Libraries have well-tested designs and layouts.
- Consistent usability across the application.

Comparing Responsive Table Libraries

Larger Libraries:

- Big Package size.
- A lot of features.
- Extensive Documentation.
- Complex feature activation.
- TanStack Table, AG Grid, Handsontable.

Compact Libraries:

- Lack of features.
- Small documentation.
- Hard to extend.
- Grid.js, Tablesaw, JSTable.

Our Project Vision

- A lightweight, responsive table library for HTML that ensures tables look great on all devices.
- Designed to integrate seamlessly with other libraries or frameworks (e.g. React, Vue, etc.).
- Open-source for collaboration, contribution, and adoption.
- Available for everyone to use.

Pattern Showcase

Stacking

Name	Manufacturer	Туре	Calories	
100%_Bran	N	cold	70	
100%_Natural_Bran	Q	cold	120	
All-Bran	K	cold	70	
All-Bran_with_Extra_Fiber	K	cold	50	
Almond_Delight	R	cold	110	
Apple_Cinnamon_Cheerios	G	cold	110	
Apple_Jacks	K	cold	110	
Basic_4	G	cold	130	
Bran_Chex	R	cold	90	
Bran_Flakes	P	cold	90	
Cap'n'Crunch	Q	cold	120	
Cheerios	G	cold	110	
Cinnamon_Toast_Crunch	G	cold	120	
Clusters	G	cold	110	
Cocoa_Puffs	G	cold	110	
Corn_Chex	_i R	cold	110	

Filtering

Search..

Name	Manufactur	rer Type	Calories
100%_Bran	N	cold	70
100%_Natural_Bran	Q	cold	120
All-Bran	К	cold	70
All-Bran_with_Extra_Fiber	К	cold	50
Almond_Delight	R	cold	110
Apple_Cinnamon_Cheerios	G	cold	110
Apple_Jacks	К	cold	110
Basic_4	G	cold	130
Bran_Chex	R	cold	90
Bran_Flakes	Р	cold	90
Cap'n'Crunch	Q	cold	120
Cheerios	G	cold	110
Cinnamon_Toast_Crunch	G	cold	120
Clusters	G	cold	110

Sorting

Name	Manufact	urer Type	Calories		
100%_Bran	N	cold	70		
100%_Natural_Bran	Q	cold	120		
All-Bran	К	cold	70		
All-Bran_with_Extra_Fiber	К	cold	50		
Almond_Delight	R	cold	110		
Apple_Cinnamon_Cheerios	G	cold	110		
Apple_Jacks	К	cold	110		
Basic_4	G	cold	130		
Bran_Chex	R	cold	90		
Bran_Flakes	Р	cold	90		
Cap'n'Crunch	Q	cold	120		
Cheerios	G	cold	110		
Cinnamon_Toast_Crunch	G	cold	120		
Clusters	G	cold	110		

Goals

- Responsiveness: Tables should adapt to different sizes of screens.
- Framework Agnostic: Work with any CSS library or JavaScript framework.
- Lightweight: Small file size (24 kB), minimal configuration.
- Extensible: Allow developers to add custom styles or behaviors.

Table Patterns

Responsive Patterns:

- Stacking √
- Squishing √
- Flipping √
- Horizontal Scrolling ✓

Good Practice Patterns:

- Sorting √
- Filtering √
- Fixed Header ✓
- Zebra Stripes ✓
- Easy Column Alignment ✓

Responsive Table Patterns for Tables

- Stacking: Convert rows into vertical stacks.
- Squishing: Fitting the table into smaller spaces by reducing its size.
- Flipping: Transposing the table by turning columns into rows and vice versa.
- Horizontal Scrolling: Adding a horizontal scrollbar to the table.

Good Practice Patterns for Tables

- Sorting: Rearrange rows by clicking on the column header to sort the values in ascending/descending order.
- Filtering: Display only rows that match a filter criteria.
- Fixed Header: Keep the header row visible while scrolling through the table.
- Zebra Stripes: Alternating background color to enhance row visibility.
- Easy Column Alignment: Keep text left and numbers right.

Additional Features

- Good practice patterns enabled by default.
- Simple activation of different patterns for tables.
- Loading data with csv files.
- Three examples:
 - o HTML and CSS only.
 - HTML and JS with CSV loading.
 - React implementation.

Library Structure

```
RespTable
 -- dist/
    |-- cis/
     -- esm/
 -- examples/
     -- html/
     -- html-with-csv/
     -- react/
     -- README.md
 -- node modules/
 -- src/
     -- components/
     -- styles/
     -- index.js
     -- README.md
 -- gulpfile.js
 -- LICENCE
 -- package.json
 -- rollup.config.js
   README md
```

Contains the built library files.

All the CSS code.

Includes three example projects demonstrating how to use the library.

Contains all the dependencies installed via npm. Contains the library's source code. All the JS code.

Integration Example

Import the library with desired modules:

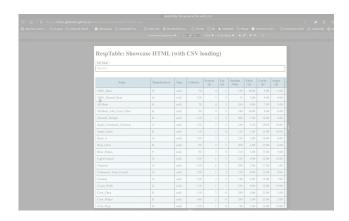
```
import { LoadCSV, CreateTable, ApplyStacking } from './respTable.js';
```

Create a table and apply a pattern by calling functions:

```
const csvData = await LoadCSV('./cereals.csv');
CreateTable(csvData);
ApplyStacking();
```

Future Work

- Add more patterns:
 - Fixed Columns.
 - o Pagination.
 - Column / Row toggle.
- Accessibility Feature:
 - Screen reader.
- Rslidey compatibility.







Showcase video on YT: https://youtu.be/3FPELCNy-5k

Github Repo: https://github.com/milos-globocki/RespTable

Live Demo on Github Pages:

https://milos-globocki.github.io/RespTable/examples/html-with-csv/

https://milos-globocki.github.io/RespTable/examples/html/