

RespTable: Lightweight Responsive Tables

Information Architecture and Web Usability
Group 3
28 Jan 2025

Alexander Kassil, Daniel Hevesy-Szettyan, Dominik Bauer, and Miloš Globočki

Copyright 2025 by the author(s), except as otherwise noted.
This work is placed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence

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	Type	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'nCrunch	Q	cold	120
Cheerios	G	cold	110
Cinnamon_Toast_Crunch	G	cold	120
Clusters	G	cold	110
Cocoa_Puffs	G	cold	110
Corn_Chex	R	cold	110

Filtering

Search...

Name	Manufacturer	Type	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

Sorting

Name	Manufacturer	Type	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

Goals

- *Responsiveness*: Tables should adapt to different sizes of screens.
- *Framework Agnostic*: Work with any CSS library or JavaScript framework.
- *Lightweight*: Small file size, minimal configuration.
- *Extensible*: Allow developers to add custom styles or behaviors.
- *Accessible*: Supports various accessibility features out of the box.

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:
 - HTML and CSS only.
 - HTML and JS with CSV loading.
 - React implementation.

Library Structure

RespTable

-- dist/	Contains the built library files.
-- cjs/	
-- esm/	
-- examples/	Includes three example projects demonstrating how to use the library.
-- html/	
-- html-with-csv/	
-- react/	
-- README.md	
-- node_modules/	Contains all the dependencies installed via npm.
-- src/	Contains the library's source code.
-- components/	All the JS code.
-- styles/	All the CSS code.
-- index.js	
-- README.md	
-- gulpfile.js	
-- LICENCE	
-- package.json	
-- rollup.config.js	
-- README.md	

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();
```

Name	Manufacturer	Type	Calories	Protein (g)	Fat (g)	Sodium (mg)	Fiber (g)	Carbs (g)	Sugar (g)
100% Juice	N	cond	70	1	1	10	10.00	9.00	8.00
100% Natural Juice	O	cond	120	1	1	15	2.00	9.00	8.00
All Juice	K	cond	70	1	1	200	9.00	9.00	5.00
All Juice, with Extra Fiber	K	cond	70	1	1	140	14.00	9.00	9.00
Almond Delight	E	cond	110	2	2	200	1.00	14.00	9.00
Apple, Cinnamon, Cheesecake	G	cond	110	2	2	100	1.50	16.50	10.00
Apple, Delish	K	cond	110	2	1	125	1.00	13.00	14.00
Banana	G	cond	100	1	1	20	1.00	18.00	8.00
Banana, Choc	B	cond	90	2	1	200	4.00	13.00	6.00
Banana, Pkano	P	cond	90	1	1	210	5.00	13.00	5.00
Capri/Condensed	O	cond	120	1	2	220	0.00	12.00	12.00
Cheesecake	G	cond	110	1	2	200	2.00	17.00	1.00
Cinnamon, Toast, Cheesecake	G	cond	120	1	1	210	0.00	13.00	9.00
Chocolate	O	cond	100	1	2	100	2.00	13.00	7.00
Chocolate, Pkano	G	cond	100	1	1	100	0.00	13.00	13.00
Cocoa, Choc	B	cond	110	1	1	200	0.00	22.00	3.00
Cocoa, Pkano	K	cond	100	2	1	200	1.00	21.00	2.00
Cocoa, Pkano	K	cond	110	1	1	40	1.00	13.00	12.00

Showcase



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/>