

Introduction

This documentation is aimed to give context to [ADR-069](#)

Approach

This work is partially based on a comparison study already done for 16 out of 17 components included [1].

16	99	1,584	53	25
Commercial Products	Features Compared	Data Points Collected	Hours of Research	Years of Expertise

Here is the general approach that we adopted to select the final grid component.

- 1. High level analysis based on key differentiators (see below).
- 2. Short listed 4 out of 16 and added ag-grid to the short list.
- 3. Compared features of the 5 grids based on the demos provided by vendors.
- 4. General appreciation and final recommendation of the final choice.

Here is the short list of the most promising 4 (without ag-grid)

Showing 1 - 4 of 4 products	<div>GRAPECITY</div> Wijmo FlexGrid	<div>INFRAGISTICS</div> Ignite UI Angular Grid	<div>SYNCFUSION</div> Syncfusion Grid control for JavaScri...	<div>DEVEXPRESS</div> DevExtreme HTML5 JavaScript Data Gri...
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Standard Features ^				
<input type="checkbox"/> Aggregation (4)	●	●	●	●
<input type="checkbox"/> Clipboard Support (3)	●	●	●	○
<input type="checkbox"/> Conditional Formatting (3)	●	●	●	○
<input type="checkbox"/> Context Menu (3)	●	●	●	○
<input type="checkbox"/> Copy and Paste (4)	●	●	●	●
<input type="checkbox"/> Custom Editing (4)	●	●	●	●
<input type="checkbox"/> Data Validation (3)	●	●	○	●
<input type="checkbox"/> Drag-and-drop (4)	●	●	●	●
<input type="checkbox"/> Drill-down (3)	●	●	○	●
<input type="checkbox"/> Dynamic Updates (3)	●	●	○	●
<input checked="" type="checkbox"/> Editing / Inline Editing (4)	●	●	●	●
<input checked="" type="checkbox"/> Endless Scrolling (4)	●	●	●	●
<input checked="" type="checkbox"/> Filtering (4)	●	●	●	●
<input type="checkbox"/> IME Support (1)	●	○	○	○
<input checked="" type="checkbox"/> Master-Detail (4)	●	●	●	●
<input type="checkbox"/> Merge Cells (3)	●	●	●	○
<input type="checkbox"/> Paging (4)	●	●	●	●
<input type="checkbox"/> Popup Editor (3)	●	○	●	●
<input type="checkbox"/> Responsive Layout (4)	●	●	●	●
<input type="checkbox"/> Searching (4)	●	●	●	●
<input type="checkbox"/> Selection (4)	●	●	●	●
<input type="checkbox"/> Selection (multiple) (4)	●	●	●	●
<input type="checkbox"/> Sorting (local) (4)	●	●	●	●

Cell Types ^				
<input type="checkbox"/> Autocomplete (2)	●	●	○	○
<input type="checkbox"/> Button (2)	●	○	○	●
<input type="checkbox"/> Checkbox (4)	●	●	●	●
<input type="checkbox"/> Country (1)	○	●	○	○
<input type="checkbox"/> Custom Cell Types (3)	●	●	○	●
<input type="checkbox"/> Date (4)	●	●	●	●
<input type="checkbox"/> Dropdown/List (3)	●	●	●	○
<input type="checkbox"/> Hyperlink (3)	●	●	●	○
<input type="checkbox"/> Image (3)	●	●	○	●
<input type="checkbox"/> Numeric (4)	●	●	●	●
<input type="checkbox"/> Password (0)	○	○	○	○
<input type="checkbox"/> Radio Button (1)	●	○	○	○
<input type="checkbox"/> Sparklines (3)	●	●	●	○
<input type="checkbox"/> Text / String (4)	●	●	●	●
<input type="checkbox"/> Time (2)	●	●	○	○
▼ Data Sources ^				
<input type="checkbox"/> AJAX (1)	○	○	●	○
<input type="checkbox"/> CSV/TSV (0)	○	○	○	○
<input type="checkbox"/> Custom Remote Data Sources (2)	○	●	○	●
<input type="checkbox"/> HTML Tables (1)	○	●	○	○
<input type="checkbox"/> JSON (4)	●	●	●	●
<input type="checkbox"/> Local Data (3)	●	●	●	○
<input checked="" type="checkbox"/> OData (4)	●	●	●	●
<input type="checkbox"/> RESTful (2)	○	●	●	○
<input type="checkbox"/> WCF Services (1)	○	○	●	○
<input type="checkbox"/> Web API (3)	○	●	●	●
<input type="checkbox"/> XML (0)	○	○	○	○

Row & Column ^				
<input type="checkbox"/> Expand Columns (3)	●	●	○	●
<input type="checkbox"/> Fixed Headers (3)	●	●	●	○
<input type="checkbox"/> Freeze Columns (4)	●	●	●	●
<input type="checkbox"/> Grouping (4)	●	●	●	●
<input type="checkbox"/> Grouping (summary) (4)	●	●	●	●
<input type="checkbox"/> Hide Columns (4)	●	●	●	●
<input type="checkbox"/> Hide Rows (1)	●	○	○	○
<input type="checkbox"/> Read-only Columns (3)	●	●	●	○
<input type="checkbox"/> Reorder Columns (4)	●	●	●	●
<input type="checkbox"/> Reorder Rows (4)	●	●	●	●
<input type="checkbox"/> Required Columns (1)	●	○	○	○
<input type="checkbox"/> Resize Columns (4)	●	●	●	●
<input type="checkbox"/> Row Editing (3)	●	●	○	●
<input type="checkbox"/> Row Selection (4)	●	●	●	●
Export Formats ^				
<input checked="" type="checkbox"/> Export Selection (3)	○ more	●	●	●
<input type="checkbox"/> Export to CSV/TSV (3)	●	●	●	○
<input checked="" type="checkbox"/> Export to Excel XLS/XLSX (4)	●	●	●	●
<input type="checkbox"/> Export to HTML (0)	○	○	○	○
<input type="checkbox"/> Export to Image (0)	○	○	○	○
<input type="checkbox"/> Export to JSON (0)	○	○	○	○
<input type="checkbox"/> Export to PDF (3)	●	○	●	●
<input type="checkbox"/> Export to XML (0)	○	○	○	○

Key differentiators and comparison with ag-grid:

Feature	lgx-grid	ag-grid
Number of features	72/78	-
Grouping/Pivoting	5	4
Working with Columns	5	3
Working with Rows	5	3
Simple & Advanced filtering	5	3
Persist state	5[5]	3
Batch editing	5[6]	3
Export to excel/selection	5	3
Support of OData	✓	✗

Feature	Igx-grid	ag-grid
Provide Schematics	✓	✗
Performance	5[2]	3[10]
License	(1295\$-1495\$)/dev/year[7]	1200\$/dev/year+750\$/app/srv.[8]
ROI	100+ UI components	Grid+charts

N.B.: 1-5: from poor to rich

General appreciation of igx-grid

After analysis, Igx-grid is the most suitable grid for complex scenarios for most of our use cases. Overall, it provides the best UX and DX. Here are some of the main Pros and Cons identified during the analysis:

Pros

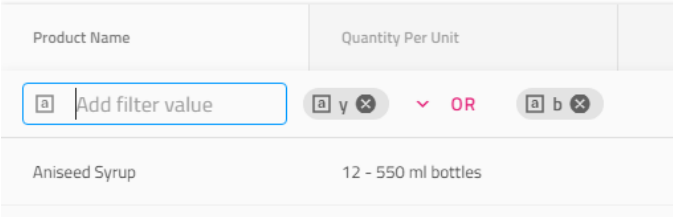
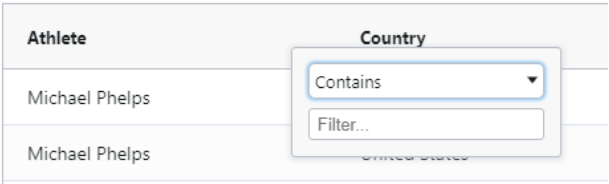
- Ignite UI Grid have the most feature of the shortlisted grids(72/78)
- The UX is better than the competitors (filtering, grouping,etc).
- Easy to integrate to angular components.
- ROI: With the bundle, we have access to charts and a lot of enterprise components.
- The performance is better than other competitors [2]
- Filtering on groups is very advanced and very intuitive(example below).
- Flexible Row and Column pinning/freezing[5]
- Can paste from excel in cell or as rows with Ctrl+V [3]
- Support for schematics: Provides easy integration with our future schematics[9].
- Separate Hierarchical and Tree grids provides more flexibility to our teams.

Cons

- Do not support PDF export directly (could be done differently if needed)
- Do not support Android mobile (not important for now)

Example of features:

Simple filtering :Igx-grid vs ag-grid:

Ignite data grid	ag-grid
	

Advanced filtering:

Grouping

Resources

- [1] Short List: https://www.componentsource.com/compare/angular-grid-controls-comparison?cc=ca&gclid=CjwKCAjwsJ6TBhAlEiwAfI4TWCFx5_YmPx0GonyCGa6VnONC3G6qZFwugQnyvjwb38NQgET9L2KH5xoCExsQAvD_BwE&p=2075,2827,436,437,651&s=review&utm_campaign=gca001_1002661_en&utm_medium=cpc&utm_source=google
- [2] Ignite vs ag grid: <https://www.infragistics.com/products/ignite-ui-angular/ignite-ui-angular-vs-ag-grid>
- [3] Ignite Data grid:<https://www.infragistics.com/products/ignite-ui-angular/angular/components/grid/paste-excel>
- [4] ag-grid: <https://www.ag-grid.com/javascript-data-grid/filter-text/>

- [5] pin/freeze:<https://www.infragistics.com/products/ignite-ui-angular/angular/components/grid/row-pinning>
- [6] <https://www.infragistics.com/products/ignite-ui-angular/angular/components/grid/batch-editing>
- [7] <https://www.infragistics.com/how-to-buy/product-pricing>
- [8] <https://www.ag-grid.com/license-pricing.php>
- [9] <https://www.infragistics.com/products/ignite-ui-angular/angular/components/general/cli-overview>
- [10] ag-grid performance compared to others: <https://dzone.com/articles/the-fastest-javascript-data-grid-a-performance-ana>