

js/script_radarboard_einzel_udim_alle_projekte.js

© 0

Introduction

This document will walk you through the implementation of the radar board visualization in

[js/script_radarboard_einzel_udim_alle_projekte.js](#) ✓.

The radar board visualization is designed to display various projects and their dimensions in a radar chart format. The implementation includes setting up the chart, handling themes, creating containers, adding titles, managing tooltips, and handling user interactions such as switching between different views and updating the chart based on user input.

We will cover:

1. Initial setup and themes
2. Container and title creation
3. Tooltip and legend management
4. Series creation and event handling
5. Slider functionality
6. Final initialization and appearance settings

Code flow

Initial setup and themes

We start by setting up the root element and applying themes to it. This is crucial for the overall styling and responsiveness of the chart.

[js/script_radarboard_einzel_udim_alle_projekte.js](#) ✓ Up to date

```
1  //#region ///-----A Set root, Loading Indicator, Themes, Container, Title, Filter, Buttons----
2  var root = am5.Root.new("chartdiv");
3
4  //#region ///-----A.2 Themes, Container Chart und Text, Title-----
5  root.setThemes([
6    am5themes_Animated.new(root),
7    am5themes_Responsive.new(root),
8  ]);
```

Container and title creation

Next, we create the main container for the radar chart and add a title container within it. This helps in organizing the layout and positioning of the chart and its title.

[js/script_radarboard_einzel_udim_alle_projekte.js](#) ✓ Up to date

```
10 ///-----Container und Radar Chart-----
11 var container = root.container.children.push(
12   am5.Container.new(root, {
```

```

13     width: myChartWidthEinzel,
14     height: myChartHeightEinzel,
15     layout: root.verticalLayout
16   })
17   );

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

19 //-----title-----
20 var containerTitle = container.children.push(
21   am5.Container.new(root, {
22     layout: root.horizontalLayout
23   })
24 );
25
26 var title = containerTitle.children.push(am5.Label.new(root, {
27   text: "", //wird später über update Title gesetzt
28   x: am5.percent(70),
29   textAlign: "center",
30   fontSize: 18,
31   fontWeight: 600,

```

Tooltip and legend management

We then set up tooltips and legends to provide additional information and interactivity. This includes creating tooltips for various elements and configuring the legend to handle switching between different views.

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

37 var tooltipLabelTechFachUmschalten = am5.Tooltip.new(root, { getFillFromSprite: false, dy: 8, });
38 tooltipLabelTechFachUmschalten.get("background").setAll({ fillOpacity: 0.9, fill: ColorGrauDunkel });
39
40
41 //----- pseudo Legend für Umschalten Radarboard Fachlich <-> Technologisch-----
42 var legendUmschaltenFachlichTechnologisch = containerTitle.children.push(am5.Legend.new(root, {
43   nameField: "categoryX",
44   dy: 14,
45   // dx: 420,
46   // x: am5.percent(50),
47   x: 990,
48   useDefaultMarker: true,
49   layout: root.horizontalLayout,
50   tooltip: tooltipLabelTechFachUmschalten,
51   tooltipText: "[fontWeight: 500 #fff fontSize: 13px]Umschalten Fachlich / Technologisch ",
52   forceHidden: true, //wegen MBR
53 }));

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

55 legendUmschaltenFachlichTechnologisch.valueLabels.template.set("forceHidden", true);
56

```

```

57 legendUmschaltenFachlichTechnologisch.markers.template.setup = function (marker) {
58     var check = am5.Graphics.new(root, {
59         fill: am5.Color.brighten(am5.color(0x000000), 0.2),
60         fillOpacity: 0.7,
61         layer: 50,
62         scale: 0.9,
63         svgPath: "M15.75 2.527c-.61-.468-1.46-.328-1.902.321-6.325 9.255L4.04 8.328a1.3 1.3 0 0 0-1.922-.062 1.505 1.
64     });
65     check.states.create("disabled", {
66         fillOpacity: 0
67     });
68     marker.children.push(check);
69 }
70 legendUmschaltenFachlichTechnologisch.markers.template.setAll({ width: 17, height: 17 });
71 legendUmschaltenFachlichTechnologisch.markerRectangles.template.setAll({
72     fillOpacity: 0.3,
73     strokeOpacity: 0
74 });

```

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```

76 legendUmschaltenFachlichTechnologisch.labels.template.setAll({
77     fontSize: fontSizeLegendeUmschalten,
78     fontWeight: "500"
79 });
80
81 //-----Ende pseudo Legend -----
82
83 //-----Menu Links Hamburger rechts Hilfe Video-----
84 var labelMenu = containerTitle.children.push(am5.Label.new(root, {
85     paddingTop: 7,
86     x: 17,
87     text: "[fontWeight: 500 fontSize: 18px #000]≡[fontWeight: 500 fontSize: 13px #000 ] Menü Visualisierung",
88     fontSize: 18,
89     fill: ColorBlackYAxisText,
90     cursorOverStyle: "pointer",
91     tooltip: am5.Tooltip.new(root, { paddingBottom: 5, paddingTop: 3, pointerOrientation:"left" }),
92     tooltipX: 28,
93     tooltipY: 18,
94     tooltipText: "[fontWeight: 500 fontSize: 12px #fff]Menü zur Auswahl\neiner Visualisierung",
95     background: am5.Rectangle.new(root, {

```

Series creation and event handling

We create series for each project and handle events to update the chart based on user interactions. This includes creating radar line series for each project and setting up event listeners to update the title and description based on the visible series.

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```

542 //endregion ///-----B Ranges-----
543
544 //region ///-----C Series-----
545

```

```

546 var seriesEinzelProjekt = [];
547 function erstelleSeriesEinzelTechUDimEinzel(index) { /// index= Index für Projekt geht von 1..34
548     ///var auspraegung = projekteAuspraegung[{ valueY }];
549     color = colorSetKoordinatoren[index];
550     color = am5.Color.lighten(am5.color(color), -0.65); ///war 0.1

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

552 seriesEinzelProjekt[index] = chartTechUDimEinzel.series.push(am5radar.RadarLineSeries.new(root, {
553     name: projekteNamen[index - 1], ///projekteNamen Array läuft von 0..33 deshalb index-1
554     xAxis: xAxisTechUDimEinzel,
555     yAxis: yAxisTechUDimEinzel,
556     valueYField: "value" + index,
557     categoryXField: "dimension",
558     stroke: color,
559     fill: color,
560
561 }));

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

563 seriesEinzelProjekt[index].strokes.template.setAll({ strokeWidth: 2.3, fillOpacity: 0, fill: color }); ///war f
564 seriesEinzelProjekt[index].bullets.push(function () {
565     return am5.Bullet.new(root, {
566         sprite: am5.Circle.new(root, {
567             radius: 5,
568             fillOpacity: 0.9,
569             ///fill: ColorWhite
570             fill: am5.Color.lighten(seriesEinzelProjekt[index].get("fill"), 0)
571         })
572     });
573 });
574 };

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

576 /// series automatisch für alle 34 Projekte erstellen
577 for (var index = 1; index <= projekteNamen.length; index++) {
578     erstelleSeriesEinzelTechUDimEinzel(index);
579 };
580
581 /// pseudo series für Umschalten Radarboard Fachlich <-> Technologisch
582 seriesUmschaltenFachlich = chartTechUDimEinzel.series.push(am5radar.RadarLineSeries.new(root, {
583     name: "Fachlich-Didaktisch",
584     xAxis: xAxisTechUDimEinzel,
585     yAxis: yAxisTechUDimEinzel,
586     /// fill: ColorBlackYAxisText,
587     fill: ColorGrauDunkel,
588     valueYField: undefined,
589     categoryXField: "dimension",
590 }));

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
592 seriesUmschaltenTechnologisch = chartTechUDimEinzel.series.push(am5radar.RadarLineSeries.new(root, {
593   name: "Technologisch",
594   xAxis: xAxisTechUDimEinzel,
595   yAxis: yAxisTechUDimEinzel,
596   fill: ColorGrauDunkel,
597   valueYField: undefined,
598   categoryXField: "dimension",
599 }));
```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
601 seriesUmschaltenFachlich.on("visible", function (visible, target) {
602   if (visible) {
603     seriesUmschaltenTechnologisch.hide();
604     window.location.href = "radar-broschuere-f-einzel_udim_alle_projekte.html";
605   }
606 });
607
608 seriesUmschaltenTechnologisch.on("visible", function (visible, target) {
609   if (visible) {
610     seriesUmschaltenFachlich.hide();
611     window.location.href = "radar-broschuere-t-einzel_udim_alle_projekte.html";
612   }
613 });
```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
615 seriesCircleAussen = chartTechUDimEinzel.series.push(am5radar.RadarLineSeries.new(root, {
616   //name: "G3", //projekteNamen Array läuft von 0..33 deshalb index-1
617   xAxis: xAxisTechUDimEinzel,
618   yAxis: yAxisTechUDimEinzel,
619   fill: ColorGrauValue3,
620   valueYField: undefined,
621   categoryXField: "dimension",
622 }));
623 generiereRangesCircleAussen();
```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
625 seriesCircleMitte = chartTechUDimEinzel.series.push(am5radar.RadarLineSeries.new(root, {
626   //name: "G2", //projekteNamen Array läuft von 0..33 deshalb index-1
627   xAxis: xAxisTechUDimEinzel,
628   yAxis: yAxisTechUDimEinzel,
629   fill: ColorGrauValue2,
630   valueYField: undefined,
631   categoryXField: "dimension",
```

```
632 });  
633 generiereRangesCircleMitte();
```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
635 seriesCircleInnen = chartTechUDimEinzel.series.push(am5radar.RadarLineSeries.new(root, {  
636     //name: "G1", //projekteNamen Array läuft von 0..33 deshalb index-1  
637     xAxis: xAxisTechUDimEinzel,  
638     yAxis: yAxisTechUDimEinzel,  
639     fill: ColorGrauValue1,  
640     valueYField: undefined,  
641     categoryXField: "dimension",  
642 }));  
643 generiereRangesCircleInnen();
```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
645 function erstelleLegendEventsTechUDimEinzel(index) {  
646     seriesEinzelProjekt[index].on("visible", function (visible, ev) {  
647         updateTitleText();  
648         updateProjektBeschreibungText();  
649  
650         if (visible) {  
651             var dim = Math.ceil(index / 4);  
652             // console.Log("Legend Event visible Dim: ", dim)  
653             var color1 = am5.Color.lighten(eval('ColorDim' + dim + 'Value1'), 0.0);
```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
655 indexVisibleUDim = index;  
656 //noch ändern nur wechsel farbe range wenn nötig also neue dim  
657 generiereRangesProjektNamen();  
658 generiereRangesCircleAussen();  
659 generiereRangesCircleMitte();  
660 generiereRangesCircleInnen();
```



js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```
662     for (var i = 1; i <= projekteNamen.length; i++) {  
663         if (i == index) {  
664             // console.Log("i==index show", i, index)  
665             seriesEinzelProjekt[i].show();  
666             nameProjekt = projekteNamen[i - 1];  
667             // console.Log("on.visible p=" + nameProjekt);  
668             indexVisibleUDim = i;  
669  
670         }  
671         else {  
672             //console.Log("i<>index hide", i, index)
```

```

673     seriesEinzelProjekt[i].hide();
674     }
675     };
676
677     }
678     else {
679         // console.Log("not visible: ",index)
680

```

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date


```

685  /// series events automatisch für alle 34 Projekte erstellen
686  for (var index = 1; index <= projekteNamen.length; index++) {
687      erstelleLegendEventsTechUDimEinzel(index);
688  };
689
690  ///#endregion ///-----C End Series-----
691
692  ///#region ///-----D Slider-----
693  var containerSlider = chartTechUDimEinzel.children.push(am5.Container.new(root, {
694      //y: am5.percent(101),
695      y: am5.percent(95),
696      dy: 85,
697      centerX: am5.p50,
698      x: am5.p50,
699      dx: -20,
700      width: am5.percent(57),
701      layout: root.horizontalLayout
702  }));
703  containerSlider.hide();

```

Slider functionality

We add a slider to allow users to navigate through different datasets. This includes creating the slider, handling its events, and updating the chart based on the slider's position.

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```

705  var playButton = containerSlider.children.push(am5.Button.new(root, {
706      themeTags: ["play"],
707      centerY: am5.p50,
708      marginRight: 15,
709      icon: am5.Graphics.new(root, { themeTags: ["icon"] })
710  }));
711
712  playButton.get("background").setAll({ fill: ColorGrauValue1 });
713  playButton.events.on("click", function () {
714      if (playButton.get("active")) {
715          slider.set("start", slider.get("start") + 0.0001);
716      }
717      else {
718          slider.animate({
719              key: "start",

```

```

720         to: 1,
721         duration: 10000 * (1 - slider.get("start"));
722     });
723 }
724 })

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

726 var slider = containerSlider.children.push(am5.Slider.new(root, {
727     orientation: "horizontal",
728     //start: 0.05,
729     start: 0.90, //slider zu beginn rechts aussen
730     centerY: am5.p50
731 }));
732
733 slider.on("start", function (start) {
734     if (start === 1) {
735         playButton.set("active", false);
736     }
737 });

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

739 slider.events.on("rangechanged", function () {
740     updatesSliderDatensatz(Math.round(slider.get("start", 0) * anzahlSliderKategorienEinzel));
741 });
742
743
744 var tooltipSliderText = am5.Tooltip.new(root, { getFillFromSprite: false, dy: -5, });
745 tooltipSliderText.get("background").setAll({ fillOpacity: 0.9, fill: ColorGrauDunkel });

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

764 var sliderTextStandB = chartTechUDimEinzel.children.push(am5.Label.new(root, {
765     text: "Stand Dezember 2022",
766     y: am5.percent(95.5),
767     dy: 40,
768     x: am5.percent(48),
769     centerX: am5.percent(50),
770     fontSize: 14,
771     fontWeight: 500,
772     fill: ColorBlackYAxisText,
773     cursorOverStyle: "pointer",
774     tooltip: tooltipSliderText,
775     tooltipText: "[fontWeight: 500 fontSize: 13px]Datengrundlage\n[fontWeight: 400 fontSize: 12px]Fremdeinschätzung",
776     background: am5.Rectangle.new(root, {
777         fill: am5.color(0x000000),
778         fillOpacity: 0
779     })
780 }));
781 var sliderTextStandC = chartTechUDimEinzel.children.push(am5.Label.new(root, {
782     text: "Stand August 2023",



```


Final initialization and appearance settings



Finally, we initialize the chart with the initial dataset, hide all series except the first one, and set up the legend. We also handle the appearance of the chart and its elements.

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```
857 //chartTechUDimEinzel.set("scale", 0.95); /// initial chart herunterskalieren da evtl. schriften zu gross
858
859 ///series mit neuem datensatz initialisieren
860 for (var index = 1; index <= projekteNamen.length; index++) {
861     seriesEinzelProjekt[index].data.setAll(dataUnterDimensionenEinzel);
862 };
```

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```
865 ///series ab Projekt 2 hide damit nur erstes sichtbar ist
866 for (var index = 2; index <= projekteNamen.length; index++) {
867     seriesEinzelProjekt[index].hide();
868 };
869
870 //generiereRangesGesamtValues(); ///Anzeige Gesamtvalues beim start aktivieren, wird schon an anderer stelle gem
871 //seriesGesamtValues.show();
872 //seriesGesamtValues.hide(); ///Anzeige Gesamtvalues beim start deaktivieren
```

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```
874 xAxisTechUDimEinzel.data.setAll(dataUnterDimensionenEinzel);
875
876 //LegendTechUDimEinzel.data.setAll(chartTechUDimEinzel.series.values);
877
878 for (var index = 1; index <= projekteNamen.length; index++) {
879     legendTechUDimEinzel.data.push(seriesEinzelProjekt[index]);
880 };
```

 js/script_radarboard_einzel_udim_alle_projekte.js  Up to date

```
882 function insertLegendLabel(text, index, color) {
883     var label = legendTechUDimEinzel.children.insertIndex(index, am5.Label.new(root, {
884         text: text,
885         fontSize: 12,
886         fontWeight: "bold",
887         fill: color,
888         paddingTop: 5,
889         //paddingLeft: 0
890     }));
891 }
892 /* if (thema == "UDim-Technologisch") {
893     insertLegendLabel("Informationssicherheit & Datensouveränität", 16, ColorDim5Value1);
```

```

894     insertLegendLabel("Nachnutzbarkeit durch Dritte", 12, ColorDim4Value1);
895     insertLegendLabel("Zugänglichkeit und Zusammenarbeit", 8, ColorDim3Value1);
896     insertLegendLabel("Algorithmen zur Unterstützung der Lernenden", 4, ColorDim2Value1);
897     insertLegendLabel("Interoperabilität durch Bildungsstandards", 0, ColorDim1Value1);
898 }; */

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

900 if (thema == "UDim-Fachlich") {
901     insertLegendLabel("Bereichern", 12, ColorDim5Value4);
902     insertLegendLabel("Organisieren", 9, ColorDim4Value4);
903     insertLegendLabel("Teilhabe", 6, ColorDim3Value4);
904     insertLegendLabel("Lernen", 3, ColorDim2Value4);
905     insertLegendLabel("Beraten", 0, ColorDim1Value4);
906 };

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

908 /* if (thema == "UDim-Fachlich") {
909     insertLegendLabel("Bereichern", 15, ColorDim5Value1);
910     insertLegendLabel("Organisieren", 12, ColorDim4Value1);
911     insertLegendLabel("Teilhabe", 9, ColorDim3Value1);
912     insertLegendLabel("Lernen", 6, ColorDim2Value1);
913     insertLegendLabel("Beraten", 3, ColorDim1Value1);
914 }; */

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

917 if (thema == "UDim-Fachlich") {
918     seriesUmschaltenTechnologisch.hide();
919 }
920
921 if (thema == "UDim-Technologisch") {
922     seriesUmschaltenFachlich.hide();
923 }
924 legendUmschaltenFachlichTechnologisch.data.push(seriesUmschaltenFachlich);
925 legendUmschaltenFachlichTechnologisch.data.push(seriesUmschaltenTechnologisch);

```

js/script_radarboard_einzel_udim_alle_projekte.js ✓ Up to date

```

927 // weg wegen alle projekte pro UDim
928 //LegendTechUDimEinzel.data.push(seriesGesamtValues); //bug bei einausblenden,
929
930 legendTechUDimEinzel.appear(2000, 10);
931
932 seriesEinzelProjekt[1].appear(2000); //erstes Projekt anzeigen, die anderen ausgeblendet lassen
933
934 chartTechUDimEinzel.appear(300, 10);

```

Conclusion

The radar board visualization is implemented by setting up the root element, applying themes, creating containers and titles, managing tooltips and legends, creating series for each project, handling events, adding slider functionality, and initializing the chart with the initial dataset. This approach ensures a well-organized and interactive radar chart that displays various projects and their dimensions effectively.