

Technical Documentation: DART Result Tools

Title:	Technical Documentation: DART Result Tools	
Author(s):	Ceri Binding, University of South Wales	
Contact:	ceri.binding@southwales.ac.uk	
Version:	A	
Status:	For archival	
Circulation:	Douglas Tudhope (USW), Ceri Binding (USW), Rachel Opitz (UoG)	
Required Action:	Archiving of technical documentation	
File Name:	22042-DART-technical-documentation-A.docx => 22042-DART-technical-documentation-A.pdf	
Revision History:		
Date	Who	Description
28 th January 2021	CFB	Initially created document

Contents

1	Introduction.....	2
2	Components	2
2.1	DartQueryExplainer	3
2.2	DartQueryConcepts	4
2.3	DartQueryCombinators	4
2.4	DartQueryResults.....	5
2.5	DartConceptDetails.....	6
2.6	DartCombinatorDetails	7
2.7	DartResultDetails	8
2.8	DartConceptList	8
2.9	DartExpandedConcept	9
2.10	DartConcept.....	10
2.11	DartCitations	11
3	Links.....	11

1 Introduction

The DATAARC Result Tools (DART) comprises a suite of user interface controls to aid in explaining the rationale for results appearing in the DATAARC search interface [3]. The controls are reactive web components written with HTML, CSS and JavaScript, employing the BootstrapVue framework [2] - which is a combination of Bootstrap [1] and Vue.js [6].

The controls are displayed within the DATAARC search interface under the 'why' section [5]. Following integration with the DATAARC UI GitHub code base [4] the source code for the DART user interface components is available under the folder /frontend/components/why-components. The individual components are detailed in section 2.

2 Components

For modularity the user interface components are composed of smaller sub-components, creating a component hierarchy:

- DartQueryExplainer
 - DartQueryConcepts
 - DartConceptList
 - DartConcept
 - DartExpandedConcept
 - DartConcept
 - DartQueryCombinators

- DartQueryResults
- DartConceptDetails
 - DartExpandedConcept
 - DartConcept
 - DartCitations
- DartCombinatorDetails
 - DartConceptList
 - DartConcept
 - DartExpandedConcept
 - DartConcept
 - DartCitations
- DartResultDetails

These individual components are documented below.

2.1 DartQueryExplainer

the main overarching component for the DART tools, encapsulating the other individual components. It mainly coordinates event messages between components about the status of the currently selected concepts, for highlighting purposes.

Properties

Name	Description	Data Type	Required?	Default value
filter	The current query filter options	Object	Y	-

Events

Name	Description	Parameters
-	-	-

Methods

Name	Description	Parameters
conceptMouseover	Records the ID of the currently hovered concept	data
conceptMouseout	A concept is no longer hovered	-
conceptSelected	Records the ID of the currently selected concept	data
combinatorMouseOver	Records the IDs of the concepts for the currently hovered combinator	com

combinatorMouseOut	A combinator is no longer hovered	-
combinatorSelected	Records the ID of the currently selected combinator	com
datasetSelected	Records the ID of the currently selected dataset	id

2.2 DartQueryConcepts

Displays a list of concepts relating to the concepts in the query filter currently applied.

Properties

Name	Description	Data Type	Required?	Default value
conceptIDs	IDs of concepts in the query filter	Array	N	[]
hilitedConceptIDs	IDs of concepts that should be highlighted if displayed	Array	N	[]

Events

Name	Description	Parameters
conceptMouseover	The currently hovered concept	data
conceptMouseout	The concept no longer hovered	data
conceptSelected	The currently selected concept	data

Methods

Name	Description	Parameters
getUniqueConcepts	ensure uniqueness in array of concepts	[concepts]
getConcepts	get (selected) properties of the current query concepts, via GraphQL query	[conceptIDs]
conceptMouseover	Fires event to communicate to the parent component	data
conceptMouseout	Fires event to communicate to the parent component	data
conceptSelected	Fires event to communicate to the parent component	data

2.3 DartQueryCombinators

Displays a list of combinators related to the current query concepts.

Properties

Name	Description	Data Type	Required?	Default value
conceptIDs	IDs of concepts in the query filter	Array	N	[]
hiliteForConceptID	Combinators referencing this concept will be highlighted	String	N	""

Events

Name	Description	Parameters
combinatorMouseover	The currently hovered combinator	combinator
combinatorMouseout	The combinator no longer hovered	combinator
combinatorSelected	The currently selected combinator	combinator

Methods

Name	Description	Parameters
doHilite	Refresh highlighting of combinators	[combinators], conceptID
getUniqueCombinators	ensure uniqueness of an array of combinators	[combinators]
getQueryConcepts	get (selected properties of) query concepts from array of IDs, via GQL query	[conceptIDs], callback
getCombinators	identify combinators that include one or more of the conceptIDs, via GQL query	[conceptIDs], callback
combinatorMouseover	Fires event to communicate to the parent component	combinator
combinatorMouseout	Fires event to communicate to the parent component	combinator
combinatorSelected	Fires event to communicate to the parent component	combinator

2.4 DartQueryResults

Displays a list of originating datasets for the current set of results.

Properties

Name	Description	Data Type	Required?	Default value
filter	The current query filter options	Object	Y	-

conceptIDs	The current query concept IDs	Array	N	[]
------------	-------------------------------	-------	---	----

Events

Name	Description	Parameters
datasetSelected	The currently selected dataset	dataset

Methods

Name	Description	Parameters
getAllDatasets	Get datasets corresponding to the related, matched and contextual concepts of the query	-
getDatasets	Get datasets corresponding to the query and current filter type	filter
datasetSelected	Fires event to communicate to the parent component	dataset

2.5 DartConceptDetails

Displays details of the currently selected concept, including related and contextually linked concepts.

Properties

Name	Description	Data Type	Required?	Default value
conceptID	ID of the concept to be displayed	String	N	""
highlightedConceptIDs	IDs of concepts that should be highlighted if displayed	Array	N	[]

Events

Name	Description	Parameters
conceptMouseover	The currently hovered concept	data
conceptMouseout	The concept no longer hovered	data
conceptSelected	The currently selected concept	data

Methods

Name	Description	Parameters
getConcept	Get details of the concept with the passed ID, via API call	conceptID

conceptMouseover	Fires event to communicate to the parent component	data
conceptMouseout	Fires event to communicate to the parent component	data
conceptSelected	Fires event to communicate to the parent component	data

2.6 DartCombinatorDetails

Displays details of the currently selected combinator, including description, citations and associated concepts.

Properties

Name	Description	Data Type	Required?	Default value
combinatorID	ID of the combinator to be displayed	String	N	""
grouped	Whether to display the concepts grouped or not	Boolean	N	True
hilitedConceptIDs	IDs of concepts that should be highlighted if displayed	Array	N	[]

Events

Name	Description	Parameters
conceptMouseover	The currently hovered concept	data
conceptMouseout	The concept no longer hovered	data
conceptSelected	The currently selected concept	data

Methods

Name	Description	Parameters
getCombinator	get properties of the combinator having the passed ID, via API call	Combinator ID
conceptMouseover	Fires event to communicate to the parent component	data
conceptMouseout	Fires event to communicate to the parent component	data
conceptSelected	Fires event to communicate to the parent component	data

2.7 DartResultDetails

Displays details of the currently selected result dataset.

Properties

Name	Description	Data Type	Required?	Default value
datasetID	ID of the dataset to be displayed	String	N	""
hiliteForConceptID	Dataset combinators referencing this concept will be highlighted	String	N	""

Events

Name	Description	Parameters
combinatorMouseover	The currently hovered combinator	combinator
combinatorMouseout	The combinator no longer hovered	combinator
combinatorSelected	The currently selected combinator	combinator

Methods

Name	Description	Parameters
getDataset	Get properties of the dataset having the passed ID, via GQL query	Dataset ID
combinatorMouseover	Fires event to communicate to the parent component	combinator
combinatorMouseout	Fires event to communicate to the parent component	combinator
combinatorSelected	Fires event to communicate to the parent component	combinator

2.8 DartConceptList

Display a list of concepts, with options of inline, grouped or listed

Properties

Name	Description	Data Type	Required?	Default value
concepts	The concepts to be displayed in the list	Array	N	[]
hilitedConceptIDs	IDs of concepts that should be highlighted if displayed	Array	N	[]

showExpanded	Show just the passed list, or semantic expansion of the passed list	Boolean	N	True
--------------	---	---------	---	------

Events

Name	Description	Parameters
conceptMouseover	The currently hovered concept	data
conceptMouseout	The concept no longer hovered	data
conceptSelected	The currently selected concept	data

Methods

Name	Description	Parameters
conceptsInGroup	Get concepts within the specific group (used for 'grouped' display)	group
conceptMouseover	Fires event to communicate to the parent component	data
conceptMouseout	Fires event to communicate to the parent component	data
conceptSelected	Fires event to communicate to the parent component	data

2.9 DartExpandedConcept

Display a concept with its related and contextually associated concepts

Properties

Name	Description	Data Type	Required?	Default value
concept	The central concept	Object	N	{}
hilitedConceptIDs	IDs of concepts that should be highlighted if displayed	Array	N	[]

Events

Name	Description	Parameters
conceptMouseover	The currently hovered concept	data
conceptMouseout	The concept no longer hovered	data
conceptSelected	The currently selected concept	data

Methods

Name	Description	Parameters
conceptMouseover	Fires event to communicate to the parent component	data
conceptMouseout	Fires event to communicate to the parent component	data
conceptSelected	Fires event to communicate to the parent component	data

2.10 DartConcept

Visual representation of a concept for consistent use in UI components

Properties

Name	Description	Data Type	Required?	Default value
id	Identifier of the concept	String	N	""
Label	Label to display for the concept	String	N	""
group	Name of group this concept is in	String	N	""
showGroup	Whether to display the group name	Boolean	N	False
hilited	Whether this concept should be displayed highlighted	Boolean	N	False

Events

Name	Description	Parameters
mouseOver	The currently hovered concept	data
mouseOut	The concept no longer hovered	data
selected	The currently selected concept	data

Methods

Name	Description	Parameters
conceptMouseover	Fires event to communicate to the parent component	data
conceptMouseout	Fires event to communicate to the parent component	data

conceptSelected	Fires event to communicate to the parent component	data
-----------------	--	------

2.11 DartCitations

List of citations associated with either a concept or a combinator.

Properties

Name	Description	Data Type	Required?	Default value
citation	Separate citations are in a delimited string which is parsed	String	N	""

Events

Name	Description	Parameters
-	-	-

Methods

Name	Description	Parameters
-	-	-

3 Links

- [1] Bootstrap toolkit (<https://getbootstrap.com/>)
- [2] BootstrapVue framework (<https://bootstrap-vue.org/>)
- [3] DATAARC search interface (<https://ui.data-arc.org/>)
- [4] DATAARC UI code base (<https://github.com/castuofa/dataarc-ui>)
- [5] DATAARC 'why' section (<https://ui.data-arc.org/#why-section>)
- [6] Vue.js Progressive JavaScript Framework (<https://vuejs.org/>)