Geocache.fi mobile web application technical documentation

Table of contents

Frontend

The frontend is implemented with the React framework, and Typescript programming language. Development was done with Node.js version 18.13.0 and npm version 9.4.1.

Dependencies

react-leaflet

- Used for rendering map content and calculating distances based on map location, etc

axios

- Promise-based networking libary. Used for making network requests to the backend

react-router

- Used for Single-page-app -style routing between different URL:s

sass

- CSS preprocessor

react-icons

- Used for various UI icons

react-bootstrap

- Used for certain components, such as modal and accordion

For unit testing, Jest and React testing library are used.

Eslint is used for code quality and static analysis

All dependencies and their versions are visible in the package.json file in the source code.

Pages

Pages or views that the user can navigate to, via an URL in the browser's address bar.

HomePage.tsx

Path: /

Explanation: Shows the newest caches and meetings

MapViewPage.tsx

Path: /map

Explanation: Includes the map and map menu

CachePage.tsx

Path: /geocaches/{id}

Url parameter: Id is the referenceCode of the geocache

Explanation: Shows information about a specific cache

UnauthorizedPage.tsx

Explanation: Shown if user has no permission to view the page

Components

Authorize.tsx

Determines whether content that is wrapped inside this component can be shown to the user, depending on what role the user has. Allowed roles are passed as parameters and the component compares the user's role to the allowed roles. If the user has an allowed role, the content is displayed. Otherwise, UnauthorizedPage is displayed.

Prop name	Data type	Example value	Explanation
allowedRoles	Role[]	"premium"	Roles which are allowed to view the content
unauthorizedMsg	string	"Sinulla ei ole oikeutta nähdä tätä sivua"	A message that is shown to the user in UnauthorizedPage

App.tsx

Contains the frontend's routing logic, linking pages components to different url's

GeocacheList.tsx

Shows geocaches in list format, including a link to each cache's CachePage

Props:

Prop name	Data type	Example value	Explanation
geocaches	Geocache[]		Start date of search

GeocacheModal.tsx

Shows the geocache's basic information inside a modal. Requests the backend for the cache's information. Also includes a link to the geocache's CachePage for viewing full details.

Props:

Prop name	Data type	Example value	Explanation

isOpen	boolean		whether the modal should be visible or not
toggle	function		function that is triggered when “close” is clicked inside the modal
cacheId	string or null		The id of the geocache, for which information is fetched from backend

GeocacheTitle.tsx

Displays the geocache’s timestamp in a “x minuuttia sitten” or “DD.MM.YYYY” format

Prop name	Data type	Example value	Explanation
date	Date		The date object which is formatted to string

LoginForm.tsx

Contains the login form and logic to send the login request

Prop name	Data type	Example value	Explanation
onSubmit	function		Callback function which is triggered when “login” button is clicked
onRegisterClicked	function		Callback function which is triggered when “Rekisteröidy” link is clicked.
toggleShowParent	function		Callback function which is triggered when “close” is clicked inside the

			form

Map.tsx

Renders the map using react-leaflet and geocaches as markers on the map.

Props:

Prop name	Data type	Example value	Explanation
geocaches	Geocache[]		Geocaches that are rendered on the map

MapFilterItem.tsx

Wrapper for a React Bootstrap’s Accordion element. Used for implementing the Filters.

Props:

Prop name	Data type	Example value	Explanation
header	string	“Määrä”	Header of the accordion element
eventKey	string		index of the accordion element
children	ReactNode		Element which is shown inside the accordion element

MapFiltersMenu.tsx

The menu that includes all the filters that are available when viewing the map. Also includes the logic of saving the filters state.

Prop name	Data type	Example value	Explanation

show	boolean		Whether the menu should be visible or not
onHide	function		Callback function which is triggered when “close” is clicked inside the modal
onConfirmFilters	function		Callback function which is triggered when “Käytä” button is clicked

MapMenu.tsx

The menu that is rendered on top of the map. Includes the search -button, filters -button, map type selection -button and center to user -button. Handles the logic of opening different menus by clicking the menu buttons.

Prop name	Data type	Example value	Explanation
onSearchClicked	function		Callback function, which is triggered when the “search” button is clicked.

MapTypeSelection.tsx

Displays the menu for choosing between different map type options. NOTE: logic to render different maps is not yet implemented.

Prop name	Data type	Example value	Explanation
open	boolean		whether the menu should be open or not

MapView.tsx

Wrapper for displaying both the MapMenu and Map. Automatically fetches newest caches from the backend and gives them as parameter to Map. Sends the search request to backend's search endpoint, whenever search is pressed in MapMenu.

Props: none

Navbar.tsx

Is responsible for providing links to the different pages of the application.

Link text	Page element	Link location
Geocache.fi logo	HomePage.tsx	navbar logo
Kätköt -> Kartalla	MapViewPage.tsx	Navbar menu

Adding more links to new pages requires adding the link in this component AND defining the url in App.tsx in the routing logic.

OffcanvasMenu.tssx

Side-opening menu that is used for both the navigation bar's menu and the filters menu.

Prop name	Data type	Example value	Explanation
open	boolean		whether the menu should be open or not
header	string		header that is displayed on top of the menu
body	ReactNode		react component that is shown between the header and footer
footer	ReactNode		React component that is shown in the bottom of the component
onClose	function		Callback function that is triggered when close button is

			clicked inside the menu

PageLayout.tsx

Wrapper for using a similar layout for different pages, including the Navbar and some styling

Prop name	Data type	Example value	Explanation
children	ReactNode		Page’s content that is shown inside the wrapper

SignUpForm.tsx

The sign up form that is used for registering a new user. Contains the input fields and logic to send register request to backend

Prop name	Data type	Example value	Explanation
onSubmit	function		Callback function which is triggered when “Rekisteröidy” button is clicked
onLoginClicked	function		Callback function which is triggered when “Kirjaudu” link is clicked.
toggleShowParent	function		Callback function which is triggered when “close” is clicked inside the form

Context

React contexts, which provide some common data throughout different components. The components which use the contexts, need to be wrapped inside the context’s Provider.

FiltersContext

Stores the currently applied filters.

MapContext

Wrapper for providing the MapContainer context from react-leaflet, and defining some initial values for the map.

UserContext

Stores the currently logged in user

Data models

Models for representing and handling data inside the frontend application.

Geocache

Contains data of a single geocache. NOTE: The geocache data is incomplete. For example attributes need to be added.

Field	Field	Data type	Example value	Explanation
referenceCode		string	“QCK125”	Id of the cache
name		string	“Some cache”	
postedCoordinates				
	latitude	number or undefined	47.0	Number or undefined, depending if the user has permission to view it
	longitude	number or undefined	-112.1	Number or undefined, depending if the user has permission to view it
placedDate		Date		date and time of placing the

				cache
publishedDate		Date		date and time of making the cache public
type		CacheType		
lastVisitedDate		string		
isPremiumOnly		boolean		
shortDescription		string		
longDescription		string		
hints		string		
location				
	country	string		
	countryId	number		
	state	string		
	stateId	number		
ownerAlias		string		

difficulty		number		
terrain		number		
distance		number or undefined		

User

Contains data of a single user

Field	Data type	Example value	Explanation
id	string	“asd123”	
username	string	“geouser1”	
email	string	“user@gmail.com”	
isPremium	boolean		

Filters

Filters that are sent to backend with search requests. So that the backend responds with only certain geocaches, which correspond to the filters. If the filter is undefined, it means that user has not made any selection for that filter.

Field	Data type	Example value	Explanation
limit	number or undefined		
customRule	string or undefined	“löytämättä”	
maxDistance	number or undefined		maximum distance from center point (km). The returned caches should be within this distance
cacheTypes	CacheTypes or undefined		

size	CacheSize or undefined		
nameContains	string or undefined		
description	string or undefined		
difficulty	Difficulty or undefined		
terrain	Terrain or undefined		
isPublic	boolean or undefined		
publicSince	string or undefined		Date string in ISO format
publicUntil	string or undefined		Date string in ISO format
attributes	Attributes or undefined		
centerPoint	LatLng or undefined		The center point where user wants to search.

CacheTypes

Part of Filters. What cache types are selected

Field	Data type	Example value	Explanation
peruskätkö	boolean or undefined		
multikätkö	boolean or undefined		
mysteerikätkö	boolean or undefined		
geolodju	boolean or undefined		
geokohde	boolean or undefined		
whereigokätkö	boolean or		

	undefined		
virtuaalikätkö	boolean or undefined		
webcamkätkö	boolean or undefined		
tapahtuma	boolean or undefined		
megatapahtuma	boolean or undefined		
siivoustapahtuma	boolean or undefined		
yhteisöjuhla	boolean or undefined		
vainOmiaMerkittyjäSisältäenMysteerit	boolean or undefined		
vainOmiaMerkittyjäSisältäenMultit	boolean or undefined		
vainRatkaistutMysteerit	boolean or undefined		
vainRatkaistutMysteerit	boolean or undefined		
vainRatkaistutMultit	boolean or undefined		

CacheSize

Part of Filters. What cache sizes are selected

Field	Data type	Example value	Explanation
mikro	boolean or undefined		
pieni	boolean or undefined		
normaali	boolean or undefined		
suuri	boolean or undefined		

virtuaali	boolean or undefined		
muu	boolean or undefined		
tuntematon	boolean or undefined		

Difficulty

Part of Filters. What difficulties are selected

Field	Data type	Example value	Explanation
1	boolean or undefined		
1.5	boolean or undefined		
2	boolean or undefined		
2.5	boolean or undefined		
3	boolean or undefined		
3.5	boolean or undefined		
4	boolean or undefined		
4.5	boolean or undefined		
5	boolean or undefined		

Terrain

Part of Filters. What terrain difficulties are selected

Field	Data type	Example value	Explanation
1	boolean or undefined		

1.5	boolean or undefined		
2	boolean or undefined		
2.5	boolean or undefined		
3	boolean or undefined		
3.5	boolean or undefined		
4	boolean or undefined		
4.5	boolean or undefined		
5	boolean or undefined		

Attributes

Part of Filters. Some attributes have both Yes- and No-options.

Field	Data type	Example value	Explanation
abandonedBuildingNo	boolean or undefined		
abandonedBuildingYes	boolean or undefined		
availableNo	boolean or undefined		
availableYes	boolean or undefined		
bicyclesNo	boolean or undefined		
bicyclesYes	boolean or undefined		
boatYes	boolean or undefined		
challengecacheYes	boolean or undefined		

climbingNo	boolean or undefined		
climbingYes	boolean or undefined		
fieldPuzzleNo	boolean or undefined		
fieldPuzzleYes	boolean or undefined		
flashlightYes	boolean or undefined		
hikeShortNo	boolean or undefined		
hikeShortYes	boolean or undefined		
mineYes	boolean or undefined		
nightNo	boolean or undefined		
nightYes	boolean or undefined		
parkingNo	boolean or undefined		
parkingYes	boolean or undefined		
parkngrabNo	boolean or undefined		
parkngrabYes	boolean or undefined		
powertrailYes	boolean or undefined		
rappellingYes	boolean or undefined		
snowshoesYes	boolean or undefined		
sToolYes	boolean or undefined		
teamworkNo	boolean or undefined		

teamworkYes	boolean or undefined		
treeclimbingNo	boolean or undefined		
treeclimbingYes	boolean or undefined		
uVYes	boolean or undefined		
wadingYes	boolean or undefined		
winterYes	boolean or undefined		

LatLng

Latitude and longitude

Field	Data type	Example value	Explanation
lat	number		latitude
lng	number		longitude

REST api

Endpoints

Backend endpoints that are used by the frontend will be described here

POST /api/geocaches/search

Endpoint returns a list of geocaches that match the filters that are passed in the request body

Request body:

SearchRequest

Response type	HTTP status code	Response body	Explanation
Success	200	GeocacheListResponse	OK

POST /api/geocaches/mapsearch

Endpoint returns a list of geocaches that match the filters that are passed in the request body. Amount of information limited to what is needed for showing cache on the map.

Request body:

SearchRequest

Response type	HTTP status code	Response body	Explanation
Success	200	GeocacheListResponse	OK

GET /api/geocaches/{geocacheId}

Endpoint returns the geocache that matches the passed id.

Request parameters:

Parameter name	Data type	Example value	Explanation
geocacheId	string	“GHK405”	Id of the geocache

Responses:

Response type	HTTP status code	Response body	Explanation
Success	200	Geocache	OK
Error	404	“No geocache found”	Geocache was not found with given ID

POST /api/auth/login

Endpoint returns the user’s info and creates a session if login was successful.

Request body (json):

Field name	Data type	Example value	Explanation
username	string	“geocacheuser1”	User’s registered username
password	string	“geo_password123”	User’s registered password

Responses:

Response type	HTTP status code	Response body	Explanation
Success	200	UserDetailsResponse	OK
Error	401		Not authorized

Cookies set:

Cookie name	Explanation
SID	Session ID, used for authenticating the user for requests after successful login

POST /api/auth/register

Endpoint returns the user’s info and creates session if registering was successful

Request body (json):

Field name	Data type	Example value	Explanation
username	string	“geocacheuser1”	User’s username
password	string	“geo_password123”	User’s password

Responses:

Response type	HTTP status code	Response body	Explanation

Success	200	UserDetailsResponse	OK
Error	400	error message (string)	Username taken or credentials don’t pass validation

Cookies set:

Cookie name	Explanation
SID	Session ID, used for authenticating the user for requests after successful login

POST /api/auth/logout

Endpoint used for logging out the user. Backend deletes the session that corresponds to the user’s SID that is sent in the SID cookie.

Request body:

none

Responses:

Response type	HTTP status code	Response body	Explanation
Success	200		OK

Request schemas

Data that is sent as payload to the backend in various HTTP requests

SearchRequest

Field	Data type	Example value	Explanation
filters	Filters		
orderBy	string or undefined	“newest”	How to order geocaches

skip	number or undefined	0	From which index is data included (pagination)
take	number or undefined	5	To which index is data included (pagination)

Response schemas

Data that will be returned by the api over HTTP. All responses are in JSON format unless stated otherwise.

GeocacheMapListResponse

GeocacheMapDetails[]

GeocacheListResponse

Field	Data type
geocaches	GeocacheResponse[]

GeocacheMapDetails

Field	Field	Data type	Example value	Explanation
referenceCode		string	“QCK125”	Id of the cache
name		string	“Some cache”	
postedCoordinates				
	latitude	number or undefined	47.0	
	longitude	number or undefined	-112.1	
placedDate		string	"2004-07-22T00	date and time of

			:00:00.000"	placing the cache
publishedDate		string	"2004-07-22T00:00:00.000"	date and time of making the cache public

UserDetailsResponse

Field	Data type	Example value	Explanation
id	string	“asd123”	User’s id
username	string	“geo_user1”	User’s usename
email	string	“user@user.fi”	User’s email
isPremium	boolean	true	

Other documentation

See the github repository for further source code documentation, such as how to run or deploy the application.