

REAGENT & LEAFLETJS

OR “FUN WITH MAPS”

By Oliver Godby - Cervest Ltd. - Clojure Exchange, 4th December 2018

A LITTLE ABOUT ME...

- ▶ My name is Oliver
- ▶ I am HoE&T at <https://cervest.earth>
- ▶ I <3 Clojure (and Python and Ruby and maybe Elixir and other stuff...)
- ▶ I am also a photographer and writer
- ▶ I was at this year's Conj, come talk to me about it after.
- ▶ We are hiring at Cervest (in London) - for Clojure and ClojureScript devs.



**I NEED TO BUILD A
DASHBOARD!**

CLOJURESCRIPT!

IT'S AWESOME!

**REAGENT IS
BLOWING MY MIND!**

...AND THEN...

“SO IT’S GOING TO HAVE A MAP, RIGHT?”

- ▶ OK, so there is a problem here...
- ▶ /reagent-leaflet is somewhat untended - 3 years since a commit on code
- ▶ /react-leaflet is in JavaScript - I am not a (good or comfortable) JavaScript Developer and I don’t have any experience with ReactJS and / or JSX
- ▶ 85% of my app is built in CLJS with Reagent.

OH BOY...

**COMMUNITY TO
THE RESCUE!**

THE CLOJURE COMMUNITY IS THE BEST, RIGHT?

- ▶ Big Thanks go to #clojure-uk as a whole on the Slack, and to @mccraigmccraig and @dominim in particular in this case.
- ▶ Also HUGE shout out to <https://cljsjs.github.io/> (which you all probably already know about)
- ▶ Finally, credit where it is due - thank you ReactJS and Reagent developers / contributors.

A QUICK NOTE ABOUT GEOJSON

- ▶ You can create it by hand a variety of ways:
<http://geojson.io/#map=2/20.1/0.0>
- ▶ You can create it from a GIS Database and / or all kinds of GeoSpatial data. I have created it from PostGIS, using Qgis and ogr2ogr, but this is beyond the scope of this talk. Here are some links to get you started:
<https://postgis.net/> | <https://www.qgis.org/en/site/>
<https://www.gdal.org/ogr2ogr.html>

SO, FORM-3...

FORM-1 AND FORM-2 IN REAGENT

Form-1 - A function that returns Hiccup

```
(defn home-page []  
  [:span.main  
    [:h1 "Welcome to Conj-Guide 2018"]  
    [:img {:src "/img/conj-guide-home.png"}]  
    [:p "This is a general guide to finding your way around  
        Downtown in Durham while you are at the Conj in 2018."]]])
```

Form-2 - A function that returns a function, which may do some processing and then return Hiccup

```
(defn home-page []  
  (fn []  
    [:span.main  
      [:h1 "Welcome to Conj-Guide 2018"]  
      [:img {:src "/img/conj-guide-home.png"}]  
      [:p "This is a general guide to finding your way around  
          Downtown in Durham while you are at the Conj in 2018."]]]))
```

CODE EXAMPLE #2

FORM-3 IN REAGENT

```
(defn re-leaflet
  [params]
    (let [dn (r/atom nil)
          mapatom (r/atom nil)
          mn (:mapname params)
          lt (:latitude params)
          lg (:longitude params)
          z (:zoom-level params)
          producer-markers (:markers params)]
      (r/create-class
        {:component-did-mount (fn [ref]
                                (reset! dn (r/dom-node ref))
                                (let [lmap (js/L.map @dn)
                                      mappositioned (-> lmap (.setView (array lt lg) z))]
                                  (.addTo
                                    (js/L.tileLayer "https://{s}.tile.openstreetmap.org/{z}/{x}/{y}.png")
                                    mappositioned)
                                  (reset! mapatom mappositioned)))
          :component-did-update (fn [this]
                                  (let [newparams (r/props this)
                                        lmap @mapatom
                                        mappositionednew (-> lmap
                                                            (.panTo
                                                             (array
                                                              (:latitude newparams)
                                                              (:longitude newparams)
                                                              (:zoom-level newparams))))]
                                      (reset! mapatom mappositionednew)))
                                :display-name (str "Leaflet Map - " mn)
                                :reagent-render (fn [params]
                                                  (when @mapatom
                                                    (re-leaflet-update-markers mapatom (:markers params))
                                                    (re-leaflet-add-borders mapatom (keys (:borders params)) (:borders params)))
                                                    [:div {:style {:height (:height params)}}])))))
```

DEMO

cross your fingers that the sacrifice worked


12:25

farmvest.cervest.com

Farmvest

< Back to field

Lily's Field

 Planting

First planting date:

10 / 7 / 2018

Last planting date:

18 / 8 / 2018

Planted Area:

0.6 ha

Save

< Cancel without saving

<https://github.com/maleghast/conj-guide>