

# 1DV436 - Using components and APIs

## Assignment 1 - Design with reuse

Map your mails

Design document

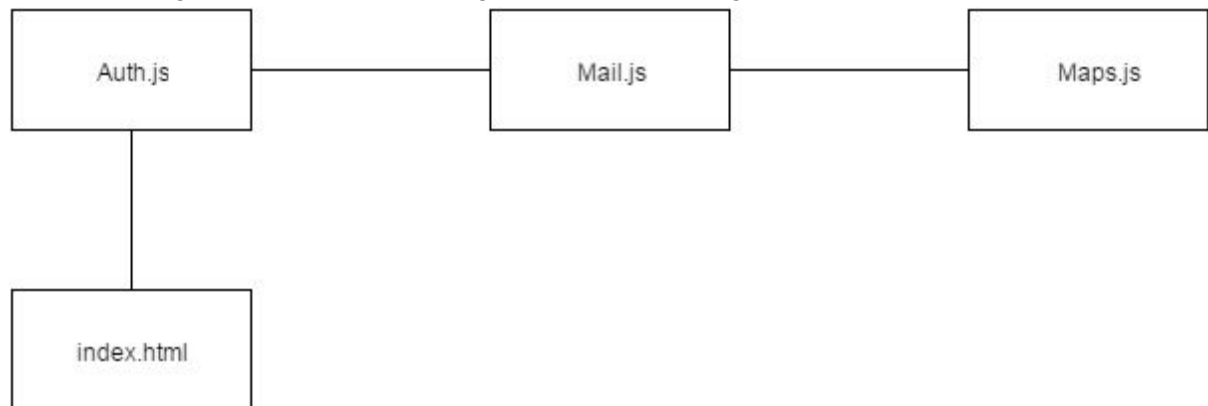
## Outline of the design

The goal with the project is to map out your inboxed mails on a google map. To do this I will need google maps and google mail api.

For the project I will use javascript since we were allowed to use whichever language we wanted. I choose javascript because I think it will be easier since the google api returns a javascript page and also, from what I have found, the google documentation have some guides for working with javascript. I have also worked with javascript before

To make this work I think I will have to devide the project into some classes. Im thinking one class that handles the map, drawing the map and adding markers, one class that handles the mail and one that handles the authentication. Except for these three classes I will also need some kind of html page.

The UML diagram for this I'm thinking will look something like this:



## Major design issues

One of the problems I probably will experience is that I have never used an API of any kind before. So I will have to read up on it or look at some guides for how to use it. Another thing is that it's been a year since I last used javascript so I will be a bit rusty but I think I'll manage. As I mentioned in the section above, the google documentation covers javascript so I can go there for help, amongst other forums.

I also think that adding the markers on the right position on the map could be an obstacle.

The alternatives I've considered is using java or javascript combined with the google APIs. The problem with java is that I have never used it, but I've heard the syntax is kinda like C# and I do want to learn it. I feel however that I'm low on time and I don't want to spend time setting up an IDE for using java and learning how to write java code at this time. This made me to finally choose javascript as language for this project.

## Design details

I'm thinking of not using MVC for this small project although I see that I could use it since there are classes representing the, at least, model and view. For example, the mail part could be a model and the map could be a view. But for this project I think I will go without MVC since it's a small project that just map mails.

The components that will be used are **Google API**, **Gmail API** and **Google Maps API**.

The Google API component is used with the auth.js class and OAuth 2 to authenticate the user. This have to be done in order to fetch the users mail later.

The Gmail API component will be handling the mail. Once the user is authenticated the Gmail API can fetch the mails to later be mapped on the map.

The GoogleMaps API component on the other hand will not use any input from the user, but an API key that you get when you setup your mail to google developer.

This image shows how I think the components should be used.

