**PROBLEM**

The mission for this project is to implement The Bart, a mashup that allows users to visualize BART routes on a Google Map and also click stations to see when the next trains depart (or arrive).

The site’s homepage must provide the user with a way of selecting one BART route at a time. Once selected, a route should be drawn as polylines on the map in the route’s official color, with markers representing each of that route’s stations. Each station, when clicked, should trigger an info window that summarize the next Trains departing from (or arriving at) that station.

**TECHNOLOGIES USED**

* HTML
* php
* Bootstrap
* Javascript
* Ajax
* Third party API

**OVERVIEW**

Databases

* routes(name, abbr, routeID, number, color)
* stations(name, abbr, gtfs\_latitude, gtfs\_longitude, address, city, county, zipcode)

Folders

* html
  + index.php
* controller
  + home.php
* view
  + header.php
  + home.php
  + footer.php
* model
  + model.php
  + data.js
  + routes.php
  + longitudes.php
  + latitudes.php
  + info.php

Request starts from html folder and goes as follows:

html( index.php ) -->

controller( home.php – collecting data from model(model.php) ) -->

view( home.php )

controller( home.php ) get routes from model( model.php ) and pass it to view( home.php ) as array which displays it as list.

model( model.php ) get the names and numbers of all routes from routes table in the database.

view( home.php ) displays the map using model( data.js ) function initialize() which is called on body loads.

view( home.php ) displays the list of routes using the route array received as parameter from controller( home.php ) and the list elements on being clicked displays the polyline on the map.

The list elements call addPolyline method of model( data.js ) passing route no as parameter.

model( data.js )

initialize() = it creates a map centered at San Francisco and zoomed to 12 and pastes it to element with id of map\_canvas in the document.

addPolyline( r\_no ) = it gets route’s longitudes and latitudes and creates polylines.

addLine(),removeLine() = it adds and removes polylines from map.

getRouteXML() = it gets information( color, stations) of particular route of given route no by ajax call to routes.php passing route no as GET parameter.

getLongitudes(), getLatitudes() = it gets longitudes and latitudes values of all the stations of given route by an ajax call to longitudes.php and latitudes.php passing array of station abbr as POST parameter.

addMarkers() = it is for adding markers to the map at the stations of the route and is called when route is selected on the page.

clearMarkers(), showMarkers(), deleteMarkers(), setAllMap() = they are used to draw and remove markers from map.

addInfoWindow(marker,st) = it adds info window at given marker and gets info from getInfo().

getInfo(st) = it gets info of departures by making ajax call to info.php about given station.

model( routes.php ) = it gets route no as GET parameter and fetches xml data from online url about the route. It then print color and stations abbr of the route in the xml form parsing online xml data using simplephp. Its mime type is set to text/xml.

model( longitudes.php and latitudes.php) = it gets array of station abbr as POST parameter and gets the longitudes or latitudes of the stations by querying from the stations database storing result in an array. It then echos the json encoded result.

model( info.php ) = it gets station abbr as GET parameter and fetches xml data from online url about the station. It uses simplephp to parse the online xml data and prints the data in the html form. Its mime type is text/html.