IT 4403 ADVANCED MOBILE AND WEB APPLICATIONS STUDY GUIDE
MODULE 8: AJAX SERVICES
Prepared by Jack G. Zheng, Fall 2020

OVERVIEW AND LEARNING OUTCOMES

In this module, we are going to see how AJAX is used to consume RESTful Web APIs in cross-domain environments.

After completing this module, you will:

- Explain cross-domain (origin) issues in AJAX
- Describe and implement the three major solutions to make cross-origin requests in JavaScript (jQuery).
  - JSONP
  - CORS
  - Server (of same domain) proxy
- Develop application to consume selected Google APIs in a web client in AJAX
  - Google custom search
  - Google Books API: manage user book library, requiring authorizations

This module is related to course level learning outcomes 3 and 5.

TASK LIST

1. Finish required readings.
2. Review the lecture notes.
3. Review the examples given by the instructor. Try it yourself to rewrite the examples compare your code to the examples provided.
4. Research and discuss
   a. What is the same domain policy? What domains are considered as same?
   b. Compare CORS and JSONP. What's similar and what's different in API implementation? When should it be used? Start with http://stackoverflow.com/questions/12296910/so-jsonp-or-cors
5. Lab 7: no submission; practice until you feel comfortable and confident to being milestone #3.

LEARNING MATERIALS

1. Core learning materials:
   a. https://www.sitepoint.com/working-around-origin-policy/
   b. CORS: https://en.wikipedia.org/wiki/Cross-origin_resource_sharing
   c. JSONP: https://en.wikipedia.org/wiki/JSONP
   d. jQuery AJAX with JSONP: http://www.dotnetcurry.com/jquery/1095/json-jsonp-jquery-basic-tutorial
   e. https://blog.algolia.com/jsonp-still-mandatory/
2. Lecture notes with examples
3. Lab 7 guide
4. Addition readings and resources
   a. AJAX+REST as the latest architectural mirage: http://stage.vambenepe.com/archives/1801
   b. https://developer.mozilla.org/en-US/docs/Web/HTTP/Access_control_CORS
   c. http://jquery-howto.blogspot.com/2013/09/jquery-cross-domain-ajax-request.html
   d. http://json-jsonp-tutorial.craic.com