University of Michigan – Dearborn
Department of Computer and Information Science

CIS 571 – Web Service - Project 1

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Report Due: 02/23/16 – 5:30pm
Demo: 02/23/16
Late Assignments will NOT be accepted

"For decades, most computer software--programs that provide data like contact information or functionality like image editing--has been conceived and written with one type of user in mind: a human. No matter what chain of events is taking place under the hood of software, a human user is traditionally at the end of that chain. That end user invariably consumes that data and/or functionality through a user interface (UI)—one that's designed to make the act of consumption as easy and even enjoyable as possible.

But what if that same data and/or functionality could be just as easily consumed by another piece of software? In this case, the UI concerns are very different. After all: Software doesn't have eyes, emotions or intuition, so it doesn't need an enjoyable, intuitive graphical user interface. However, as with a UI tailored to humans, software needs an interface that makes it easy to consume data and/or functionality.

Enter, application programming interfaces, or APIs.

An API is geared for consumption by software, which is why APIs are often explained in the mainstream media as a technology that allows applications (software programs) to talk to one another. In this context, the terms "application," "software," "machines" and "computers" are virtually interchangeable. For example, APIs are often discussed as being machine-readable interfaces (versus human-readable).
The significance of APIs to the modern world should not be underestimated. With each day, their importance to three primary constituencies—customers (the public), businesses (and business-like organizations such as government and non-profits) and programmers--seems to grow. Starting about 2005, (the same year that *ProgrammableWeb* was founded), the groundswell of interest in APIs has given birth to a

cottage industry that isn't so cottage anymore: the API economy."

By David Berlind, editor-in-chief of ProgrammableWeb.com

ProgrammableWeb.com has emerged as one of the popular directories for Web APIs. The aim of this project is to get hands on in invoking Web services using their APIs. Below is a summary of the tasks to be performed as part of this project:

Task 1: This is a reading task that requires NO deliverable for this project. You are expected to go to the API University within ProgrammableWeb and familiarize yourself with concept of API (http://www.programmableweb.com/api-university). This will nicely complement the concepts we are introducing in class

Task 2: Go to the API directory (http://www.programmableweb.com/apis/directory).

Build a helpful Web application that uses three (3) APIs with the condition that at least one is SOAP and at least one is REST. You need to explain the goal (i.e., task) of the proposed Web application and how do the 3 APIs contribute to achieve that goal

For example, the goal of a Travel Web Application is to help users buy travel packages including airline reservation, hotel reservation, and car rental. For that purpose, the Travel Web Application uses 3 existing APIs: airline reservation API, hotel reservation API, and car rental API.

Deliverable:

- ONE SINGLE report in PDF format.
- In-class demo (for in-class students) during class time. Distance learning students will have the possibility to do their project demos via other means such as Webex, youtube, etc.