

# ITEC833 Group Project

## INDIVIDUAL REPORT AND ASSESSMENT SHEET

### Student and Group Details

**Student ID : 42944511**

**Student Name : Chanikya Mandapathi**

**Project Title : Fetching data from external services**

**Other Group Members : N/A**

### Contribution Self Assessment

**C1. Summarize your role in the project and your contribution.**

- ▶ *I designed the initial project proposal.*
- ▶ *I developed the whole project individually.*
- ▶ *I integrated the webservices with external content providers like Guardian , Twitter ,GlobalWeather and StockQuote*
- ▶ *I worked on integrating the application with database*
- ▶ *I refined the initial design*
- ▶ *I worked in implementing the additional web services technologies like WSAddressing,WSSecurity,XMLRPC and Flask-JSONRPC*

**C2. What was the status of the group project? (one or two sentences)**

- ▶ *Project was successful because i delivered each of the functionalities that i promised in the documents submitted earlier.*

**C3. What was the status of your contribution to the group project? (one or two sentences)**

- ▶ *I did the whole project individually and reviewed by the Prof. Zehua liu*

**C4. Summarize the tasks which you contributed to. Use the following table as a guide.**

Task	Status	Additional Comments
Project management	N/A	Worked as a developer

Task	Status	Additional Comments
Design contribution	Y	I created the initial design,designed the components that fetched content from external service providers , designed the components that integrate different services of the application , refined design and created a flexible and scalable architecture
Web service implementation	Y	I implemented all the services of the application.Application consists of services ,some of which depends on external services and some of them provide services to others.
Back end functionality e.g. database	Y	Integrated the application with database to store username,passwords and events created by the user.Used transactions for inserting values into database
Call to external web service	Y	I integrated four external webservices with the application.Two of them are Rest based (Guardian , Twitter) and two of other are SOAP-based (GlobalWeather , StockQuote)
Web front end screens	Y	I used html style tags for the front end screens
Forms	Y	I worked on the forms and their processing.I used 'CGI' module of python to process the form data

Task	Status	Additional Comments
Integration	Y	I integrated external web services,database with the application.As application consists of multiple modules, i integrated the different modules together without violating SOA principles
Advanced functionality e.g. BPEL	Y	Implemented WS-Security,WS-Addressing,XMLRPC,Flask-JSONRPC
Report writing	Y	I wrote the report by myself based on what i implemented

## Reflection

**R1.** *If you had additional time to work on this project, would you want to change it? Explain.*

*Even though project is successful , i might have worked on adding additional functionalities like encrypting the SOAP requests , solving the vulnerabilities of the security of the application etc to the project if i had additional time.*

**R2.** *What do you like most about your contribution?*

► I explored the REST-based API of various external web services (the Guardian, Twitter). The exploration was interesting because it allowed me to compare the options offered by different APIs and judge their relative merits or shortcomings.

► I explored the SOAP API of GlobalWeather, StockQuote web services. This allowed me to understand how to invoke a SOAP service programmatically.

► I explored the various methods to parse the results of different api's.

**R3.** *What do you like least? Why?*

*I don't like the python and its related technologies for implementing the different functionalities of the application.I faced a lot of problems with the debugging.*

**R4.** *If you are given a chance to do more work, what would that be ?*

*If i had additional time , i would like to develop the application with different programming languages like Java to demonstrate that the web service and its consumer are completely decoupled*

**R5.** *Summarize your relative learning - What was your knowledge and experience in the relevant programming languages and standards related to your task? What were your main learning accomplishments?*

Before working on this project, I had intermediate knowledge of the Python . But I did not have much knowledge about how to integrate REST or SOAP based web services with a Python application.

My main learning accomplishments are summarised below:

- ▶ I learned how to use REST -based API of external web services by going through various documentations of different REST based api's.
- ▶ I learned how to use third-party Python libraries for issuing HTTP requests programmatically. This is required for interacting with REST and SOAP based external web services.
- ▶ I learned how to use third-party Python libraries to implement additional technologies like XMLRPC , Flask-JSONRPC etc.
- ▶ I learnt about WSGI and CGI modules and how to process the form data using cgi module.
- ▶ I learnt about how to implement different web services technologies like WSAddressing , WSSecurity etc
- ▶ I learnt about working with public api's of different content providers

**R6.** *Can you estimate how much time you spent in individual work towards this project (time spent on the practicals but not tutorials can be counted here). Eg number of days/hours per day?*

*I started the project on 28 th of April and finished on 28th of May. In the initial days i spend time on making the initial design of the project. But after May 12th , i spend nearly 6-8 hours per day on the project.*

## **Group Assessment -- N/A**

Only answer these questions if you were working as part of a group.

**G1.** *Do you think everyone in the group contributed equally and deserves an equal division of the marks?*

*If NOT, you may wish to comment on how you think the marks should be redistributed. Be prepared to justify your answer.*

**G2.** *Do you consider that the group worked well together? Would you have preferred to have worked on your own?*

**G3.** *Were there any special difficulties that your group had to face as a group (e.g. to coordinate the tasks)? If so, how did you help to manage them?*

## **HOWTO -- ISSUE BASE**

While investigating things, you would have encountered issues or problems that you may have spent time resolving. Please summarize the findings for at least 2 of these issues (the issues that you are most proud of having resolved, or issues that were the most critical).

For each issue describe the problem and how you resolved it. You might also mention the resources you used, how long etc.

(This serves as a useful starting point for next years students. It also serves as an indicator to your learning/accomplishment)

**Issue 1:** I had little experience in working with SOAP ,REST api's , so I had to do some research to find out how to use different api's to fetch content. I found that the online documentation and code samples are quite good and they helped me a lot.

**Issue 2:** Processing SOAP headers with Python.I faced this problem in implementing the WS-Addressing to one of the services.I searched for examples and documentation related to the topic on the online.But i didn't find any useful source.Practical tasks of WS-Addressing and practical task solutions posted by the lecturer really helped to solved this problem and implementing the callback interface for the client.

## **Acknowledgement**

**I acknowledge that this assignment is my own work.**

**I agree that that this is an honest, self assessment.**

**Agreed    Yes**