**CS5551 Advanced Software Engineering**

**Speech Helper - Iteration III**

**Due Date: Apr. 12 (F) 2013, Midnight**

Team Members:

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**Detail Design of Services - Iteration 3:**

For the Iteration III, On the IBM cloud, we created a web service that makes the authentic user to access the words list along with their audio files.

**Words list Web Service:**

For this Iteration we will design and implement the Web services that the user will use after he / she login to the application and selecting the group. This application homepage will have the details of the user’s group and account management information. From this the user can then select their respective group and check the list of words that will be shown to them according to their user type.

In this iteration we will design, implement and test the web service required for our users to choose their wordlist based on the group for our application. We will also use the same NUnit client tool to test the proper working of our web service. In this iteration we will also ensure that the web service can access the database and retrieve the required wordlist.

**Web Service – Accent Mobile Application:**

After a user has registered and logged in to the mobile application, the user can access his/her group. This group contains the list of words for which the user would like to learn the accent for. When the user logs in subsequently they can access a list of most recently used words. When the user selects a word, the accent audio next to the word can be played as many times as the user wants. Thus the user can listen to the words as many times as wanted to practice the correct accent of the word. The user can also manage their account with this application. The class diagram, sequence diagram and the service specification are as shown below.

For this Iteration we have recreated the user Registration, Login and have created the web service that the user can access after logging into the application. The web service that we created is used to allow the user to select his/her desired group. The users of our application need to specify a group to which he/she would have access to. The users can select from various groups such as Chinese, Spanish, India, African, etc. The user needs to provide his/her username and the group they would like to add. These details would be added to the user’s tables in the database. Once the group is selected the user is able to access a list of words that are there in that group. We have categorized the words in different based on the difficulty faced by the people of that native language in correcting the accent.

For this iteration we have also tried to access the web service for the group selection and word list access from our Android device. We have designed and implemented the code to access the web service through our android interface. We have integrated the android access of the group web service to this iteration. The class and sequence diagram of our application are as shown below.

**Service Specifications for Accent Mobile Application:**

**Manage Account**

* Description: Update account information and group
* Input: Account information
* Output: Confirmation
* Precondition: User is logged in successfully
* Post condition: Account information is updated
* Actors involved: User, Group, DBInterface, WordListWebService
* Object involved: User

**WordList**

* Description: Access the word list
* Input: username
* Output: Wordlist
* Precondition: User authenticated and has group selected
* Post condition: Wordlist for the user
* Actors involved: User
* Object involved: WordList, RecentWordList, GroupWordList, User



**Sequence Diagram:**



**WSDL Service Specification:**

<?xml version="1.0" encoding="utf-8" ?>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:definitions xmlns:soap="**http://schemas.xmlsoap.org/wsdl/soap/**" xmlns:tm="**http://microsoft.com/wsdl/mime/textMatching/**" xmlns:soapenc="**http://schemas.xmlsoap.org/soap/encoding/**" xmlns:mime="**http://schemas.xmlsoap.org/wsdl/mime/**" xmlns:tns="**http://tempuri.org/**" xmlns:s="**http://www.w3.org/2001/XMLSchema**" xmlns:soap12="**http://schemas.xmlsoap.org/wsdl/soap12/**" xmlns:http="**http://schemas.xmlsoap.org/wsdl/http/**" targetNamespace="**http://tempuri.org/**" xmlns:wsdl="**http://schemas.xmlsoap.org/wsdl/**">

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:types>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:schema elementFormDefault="**qualified**" targetNamespace="**http://tempuri.org/**">

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:element name="**SHGroupSelection**">

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:complexType>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:sequence>

<s:element minOccurs="**0**" maxOccurs="**1**" name="**Username**" type="**s:string**" />

<s:element minOccurs="**0**" maxOccurs="**1**" name="**Groupname**" type="**s:string**" />

</s:sequence>

</s:complexType>

</s:element>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:element name="**SHGroupSelectionResponse**">

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:complexType>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <s:sequence>

<s:element minOccurs="**0**" maxOccurs="**1**" name="**SHGroupSelectionResult**" type="**s:string**" />

</s:sequence>

</s:complexType>

</s:element>

</s:schema>

</wsdl:types>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:message name="**SHGroupSelectionSoapIn**">

<wsdl:part name="**parameters**" element="**tns:SHGroupSelection**" />

</wsdl:message>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:message name="**SHGroupSelectionSoapOut**">

<wsdl:part name="**parameters**" element="**tns:SHGroupSelectionResponse**" />

</wsdl:message>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:portType name="**GroupSelectionSoap**">

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:operation name="**SHGroupSelection**">

<wsdl:input message="**tns:SHGroupSelectionSoapIn**" />

<wsdl:output message="**tns:SHGroupSelectionSoapOut**" />

</wsdl:operation>

</wsdl:portType>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:binding name="**GroupSelectionSoap**" type="**tns:GroupSelectionSoap**">

<soap:binding transport="**http://schemas.xmlsoap.org/soap/http**" />

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:operation name="**SHGroupSelection**">

<soap:operation soapAction="**http://tempuri.org/SHGroupSelection**" style="**document**" />

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:input>

<soap:body use="**literal**" />

</wsdl:input>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:output>

<soap:body use="**literal**" />

</wsdl:output>

</wsdl:operation>

</wsdl:binding>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:binding name="**GroupSelectionSoap12**" type="**tns:GroupSelectionSoap**">

<soap12:binding transport="**http://schemas.xmlsoap.org/soap/http**" />

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:operation name="**SHGroupSelection**">

<soap12:operation soapAction="**http://tempuri.org/SHGroupSelection**" style="**document**" />

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:input>

<soap12:body use="**literal**" />

</wsdl:input>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:output>

<soap12:body use="**literal**" />

</wsdl:output>

</wsdl:operation>

</wsdl:binding>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:service name="**GroupSelection**">

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:port name="**GroupSelectionSoap**" binding="**tns:GroupSelectionSoap**">

<soap:address location="**http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx**" />

</wsdl:port>

[**-**](http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx?WSDL) <wsdl:port name="**GroupSelectionSoap12**" binding="**tns:GroupSelectionSoap12**">

<soap12:address location="**http://localhost:49783/SpeechHelperLogin/GroupSelection.asmx**" />

</wsdl:port>

</wsdl:service>

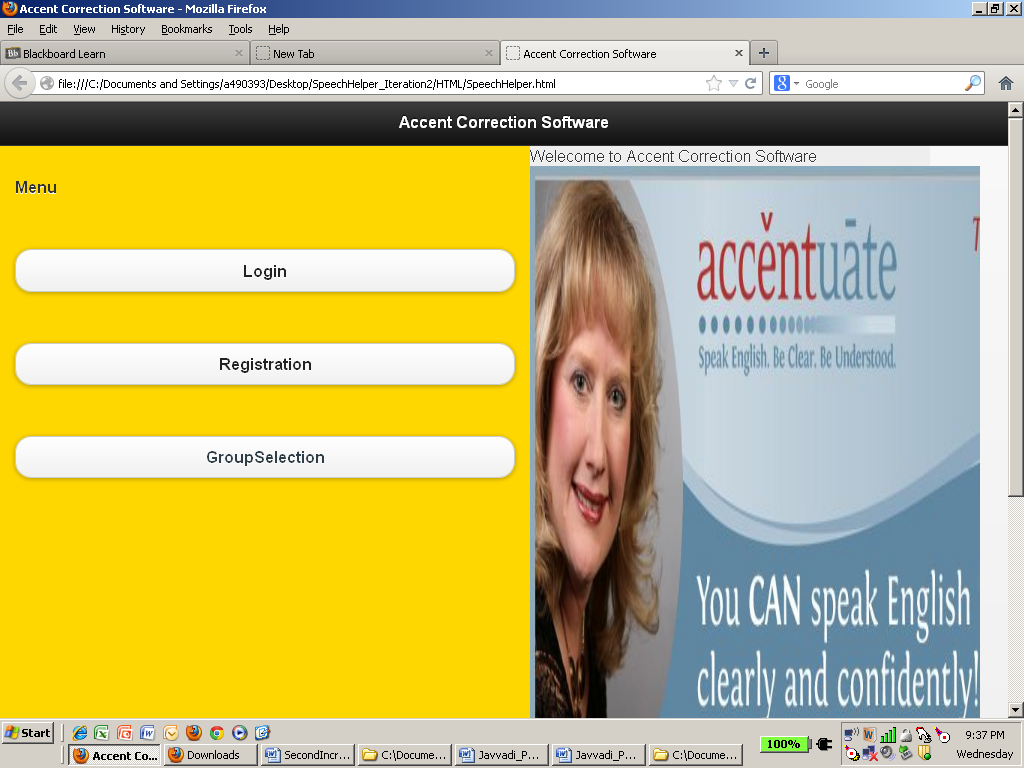
</wsdl:definitions>

**Implementation**

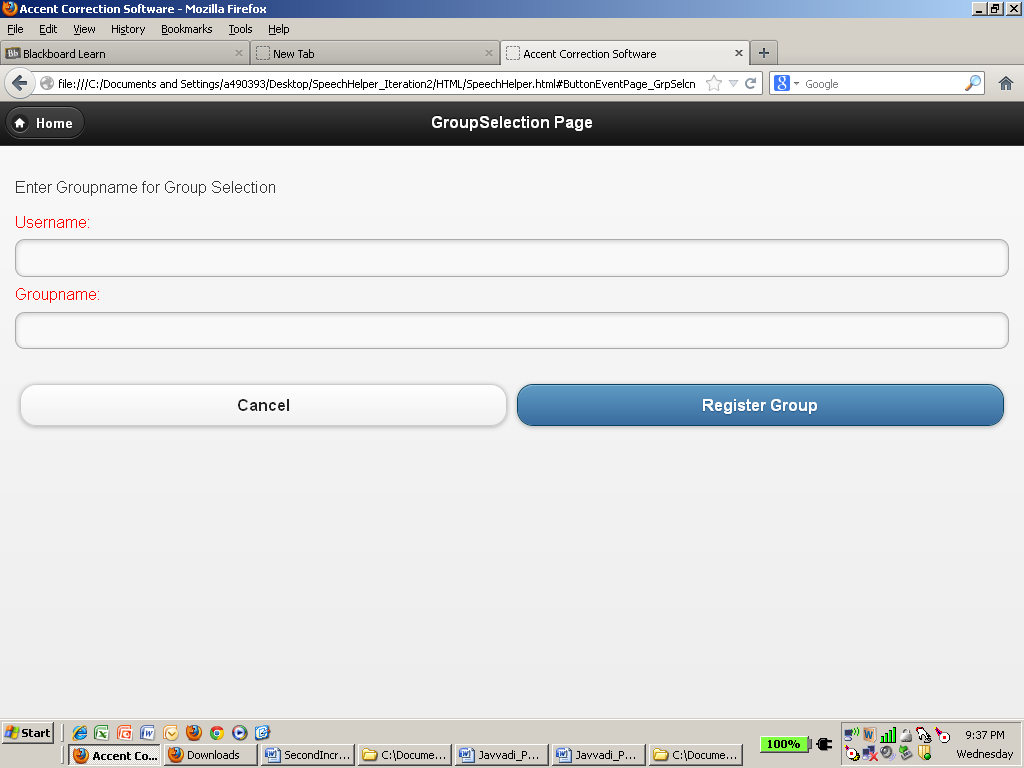
We have created the required database tables and have implemented the web service for user Registration and Login. We have designed and implemented the web service for word list access based on the group selection. For this iteration we have used the web page using HTML5 that allows a new user to add his/her group for the Speech Helper software and access the words list of that particular group. We have implemented the database and the tables to allow users to select the group and the words list. The accessed words list is also stored in the database. So that whenever user wants to check the previously accessed words list can check and can practice other words or check the same.We have implemented and tested the code for the web service using NUnit.

**The various Screen Shots for the HTML page and the web services are attached below:**

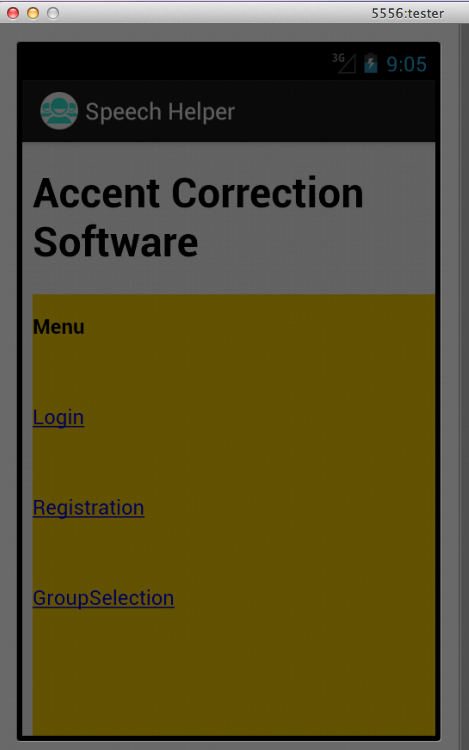
**Screen shot of the HTML Page:**

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**Screen Shot for Group Selection:**

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**Calling the Web Service through the android application:**

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**Project Iteration III implementation Status:**

Work Completed:

Creating, Implementing and testing the web services:

Geeta: 12 hrs.

Jinal: 12 hrs and

Supraja: 12 hrs.

**Internet Access:**

* 1. GitHub (URL):

We use GitHub for development version control. We have a GitHub account for the same. The URL is: <https://github.com/ASE-Javvadi-Patel-Raghavan/PronunciationHelper.git>