INTERACTIVE WEB SERVICE FOR E-MAIL BASED E-SIGNATURE

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Abstract - **This project is taken up to meet the real time requirements of clients by the APSoft Inc, Bloomfield, Michigan. Electronic signature or E-Signature is an electronic means which indicated that a person claims to have written a message and the recipient recognizes that the message has been written and sent by this person.**

This is achieved by maintaining a single unique transaction id throughout the transaction of sending mail and receiving the reply from the clients. We can track the whole process using the same unique id. The formalities of signing agreement and giving comments can be done through electronic means in San authenticated and secured way. In this project we create a web service for sending the mails using SMTP server we create DLL's. These DLL's can be imported to any other programs for E-Signatures without writing creating code. We can just implement anywhere in the program as a namespace. We use XML formats to store and process the transaction data. The whole transaction between the client and the recipient is managed by maintaining a single unique transaction ID and hence track the whole process. In the E-Signature website there is a functionality to accept the request for getting E-signature. The body of the Email is forwarded to the recipient/s contains a link to the page in the site. After the recipient/s makes the E-Signature and submits, the admin of the website must check whether all signatures have been received. When all signatures are received, the request will be closed and sent back to the requester indicating all signatures statuses with the unique IDs.

Keywords: E-Signature, Unique ID, Agreement, Client, Request, Recipient, DLL, Website.

I. INTRODUCTION

"Interactive Web Service for Email Based E-Signature (IWSEE)" is a web service which is used by a client to send request E-mail based E-Signature and receive the reply from the recipient/s. In this project we have to create a web service for sending emails to one or more recipients using SMTP server. This is done using ASP.NET and C# programming language. We can use XML formats to store and process the transaction data.This system is developed using Microsoft Visual Studio package in which .NET framework is used as front end, C# for coding and MySQL as backend. One can call the E-Signature web service to get any document agreed by the clients for authentication purpose.The web service is created to accept all the E-Signatures from the recipients. The recipients may give the parameters like the attachment containing yes or no option, expiration date for the clients to accept the signatures, to send all the clients signatures to the

recipients after every clients received etc... We should create such a web service which accepts for all the types of parameters. We should create a web service in such a way that all the recipients' requests are satisfied. Web service will send all the requests from the recipients to the particular client using the transaction id which is created already. The client will receive the mail from the web service. The web service will send the link to the client, in which he opens and responds to all the signatures sent by the requesters and sends back to the web service.

The web service will send all the signatures back to the requestors using the same transaction id which is used before, so that all the requestors will get the responses according to the request sent by the recipients. With the use of transaction id we communicate form recipients to clients, so that data is authenticated.

1.1 SCOPE OF THE PROJECT

In this present situation, composing of projects or work on any undertaking code is necessary. Yet, the same code ought to be composed for same reason at whatever point we do likewise undertaking. Composing of same code for same errand is monotonous and tedious. To stay away from this manual work we considered taking a shot at this trouble. We made DLL's of the code for which we can execute on various undertakings or projects for same purposes. These DLL's aided by maintaining a strategic distance from manual work like written work same codes for same purposes on various ventures rather we will import DLL's and actualize it on undertakings or projects at whatever point there is in need. The formalities of signing agreement and giving comments can be done through electronic means in San authenticated and secured way.In this project we create a web service for sending the mails using SMTP server.

II. MODULE DESCRIPTION

Some of the modules of this project are:

Sender Module :

- **Register Form:**

This form is to register with our web service and use the same E-mail ID and Password. This form is simulated just in order to test the correctness and working of the E-Signature web service. In this form there are two textboxes i.e., from address, to address and button to click send. This form will

redirect to the web service which we have created to accept the emails from the recipients

- **Login Form:**

The login form is used to login to our web service with id and password.This form is simulated just in order to test the correctness and working of the E-Signature web service. In this form there are two textboxes i.e., from address, to address and button to click send. This form will redirect to the web service which we have created to accept the emails from the recipients.

Signature Website :

- **Web API(Web service)**

This webpage is a part of web service that enables us to accept the request from the requester to get signature and redirect the request to one or more recipient/s' Email IDs provided as parameters in the testing website.The body of the Email contains a link to a page in this site. We use SMTP server to send the Email.

- **Web Page to capture signature**

This is a part of E-Signature website which contains agreement content in label to be signed. There will be options to either accept or decline the agreement and also give comments and submit. This page occurs after the recipient/s receives the request from the first Web API.

Recipient/s Module :

One or more recipient/s specified by the requester receives the email from web API. There will be a link to be clicked which opens the webpage to capture signature.

- **Requester Module :**

The requester receives the closed requests email from the webpage that carried the signatures and their statuses.

III. EXISTING AND PROPOSED SYSTEM
3.1 EXISTING SYSTEM

The main should be considered in computer technology is working on codes for any project to run in a perfect manner. Therefore we try writing codes to many projects or programs. The writing of codes should not be the main aim in doing projects but the codes we use should also run in other programs for same task. In the present scenario we see that writing of codes is a ridiculous job. Writing same codes repeatedly for similar job is highly low level of programs. Nowadays we use same codes regularly for same programs which is of no use. The existing system does the similar work as mentioned above.

For eg: In the existing system we must code the functionalities for sending and receiving mails for each and every project done by a company. Therefore the existing system contains the following disadvantage:

1. Time consuming- Because of repeated codes.
2. High usage of man power.
3. Unnecessary use of doing repeated tasks for no use.
4. Long duration of project submission.

3.2 PROPOSED SYSTEM

In the proposed system we tried to overcome the disadvantage of existing systems by using some new features so that manual data entry work and time consuming will be saved. As we saw the example of existing system is, sending and receiving of mails through codes is difficult because we use same coding for same task in different programs which is like consuming of time for longer period. Therefore we used DLL's so that we created the coding for sending the files to the receiver and getting E-Signatures from different recipients at the same time without writing codes for each and every client for same purposes. These DLL's will be used whenever there is necessity. The advantage of using the proposed system is:

- Reuse of code-We can use same codes for same task in different programs.
- Less time consuming.
- Use of less manual power and manual data entry work.
- Automatic storage of all E-Signatures from different clients.
- Web Based Interface.

IV. REQUIREMENT SPECIFICATION OF PDS SYSTEM

Programming Requirement Specification is the starting step for development works out. It is the medium through which the client and customer needs are absolutely controlled by making the essential specific report, which depicts the outside behavior of the proposed programming. This allows the planner to fathom the systems abilities to be done and execution levels to be gotten and relating interface to be developed. The SRS (Software Requirement Specification) accept a key part in sketching out an endeavor. SRS suggests the necessities prerequisite for endeavor sketching out and making. The entire information, which is required for the endeavor is resolved in it.

3.1 USERS

In IWSEE project there are 3 main users, they are:

- Sender
- Web Service
- Recipient

Sender: The main 3 users, in that first user is the Sender. Sender means one who sends some information to the other person and waits for the reply to that particular information. Similar way even in this IWSEE project sender sends a mail to multiple recipients at a time. Sender sends some textual document or any data which is used for their specific task as a mail to the client using DLL's. Those senders are also known

as requesters because he requests for some reply from the client till he gets the acknowledgment or the status of their requests.

Senders send a mail with an attachment to 'n' recipients.

Senders use some unique transaction id throughout the transactions in order to get the particular information about specific client when it is needed. The recipients also uses same id for the reply.

Web Service: The second type of users of this IWSEE project is the Web Service. Web Service contains both requesters' and recipients' information. This web service acts as a website. The requesters' information are stored in the form of a database and sends the requests to the multiple recipients using the unique id. This web service sends the link of the developed web site to the recipients' inbox. This web service contains the textual document where the client can send E-Signatures as accept/decline or he may also comment on that document.

Recipient: The last but not the least user of this project is recipients. These recipients send the E-Signatures to the particular requester using that unique id through the web service. The acknowledgment should be submitted to the particular requester.

V. OVERVIEW OF THE SYSTEM
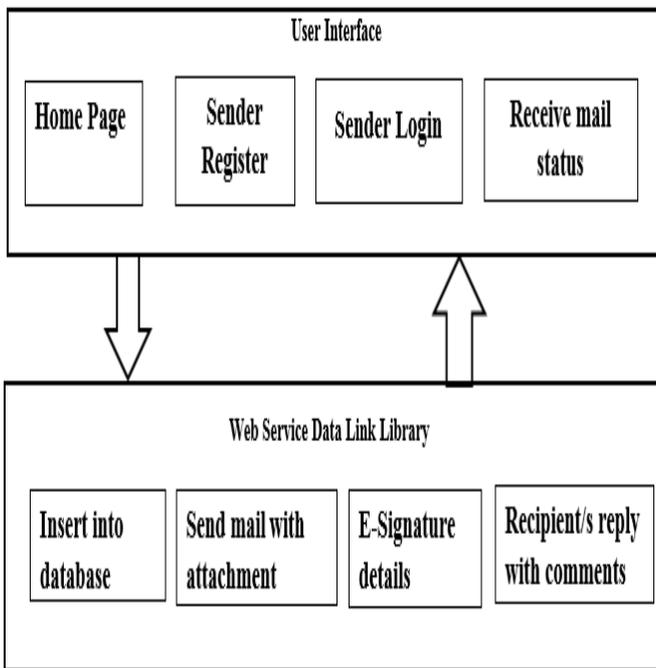
Figure 1: System design of the project

## VI. USE CASE DIAGRAM AND DATA FLOW DIAGRAM
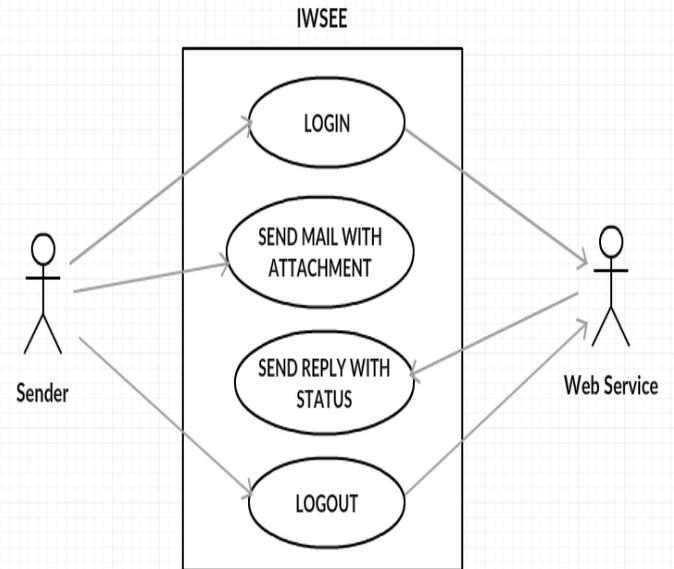

Figure 2: Use Case Diagram
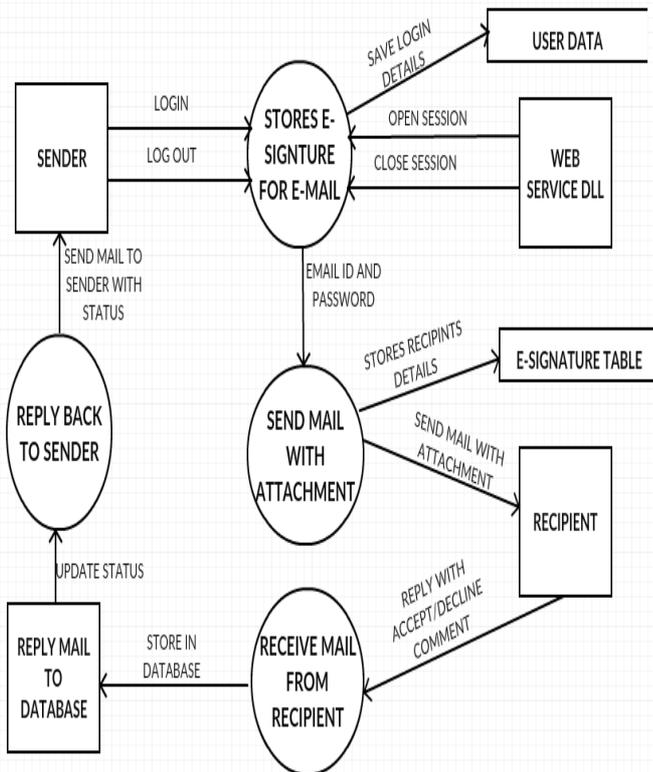
Figure 3: Data Flow Diagram for project
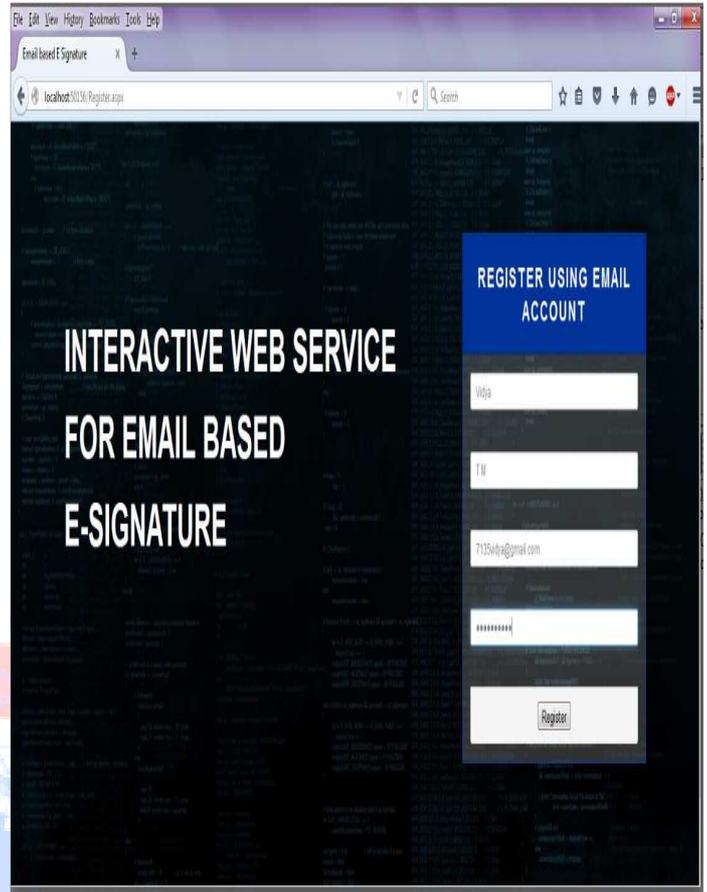
Figure 5: Registration Form
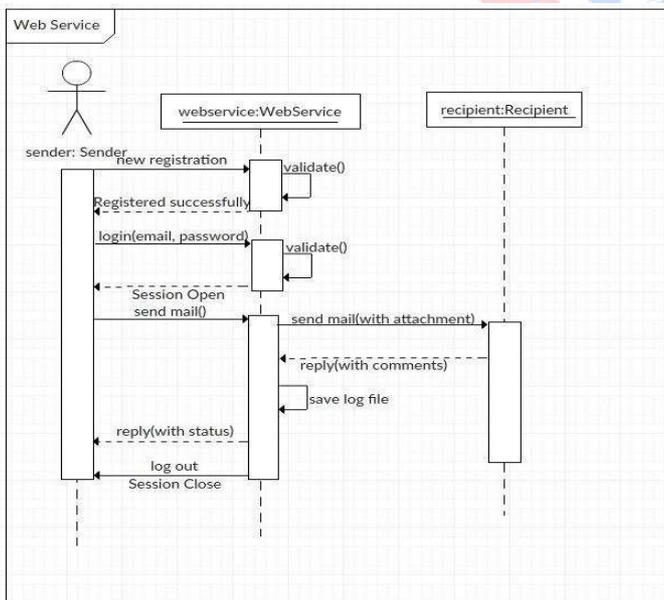
Figure 4: Sequence Flow of Project

VII.IMPLEMENTATION
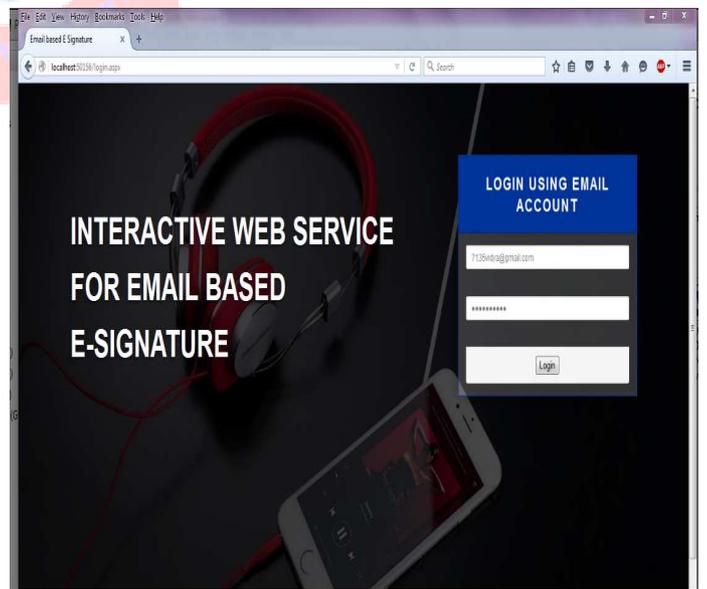

Figure 6: Login Form
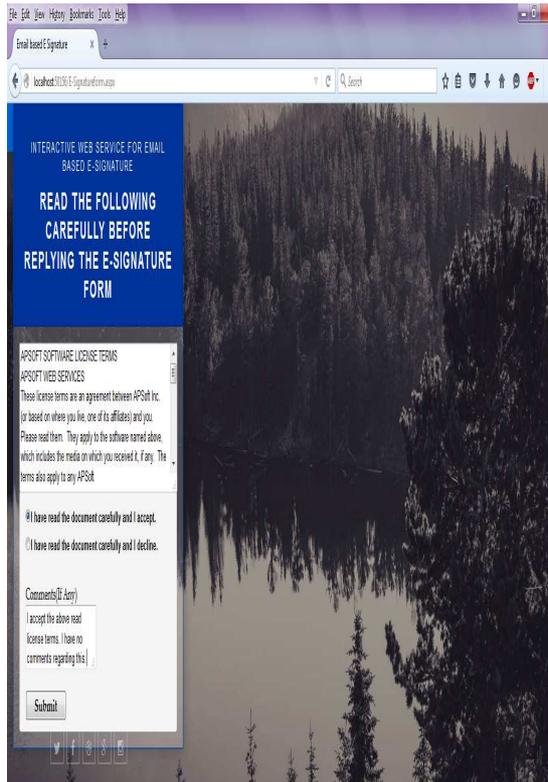
Figure 7: E-Signature Form
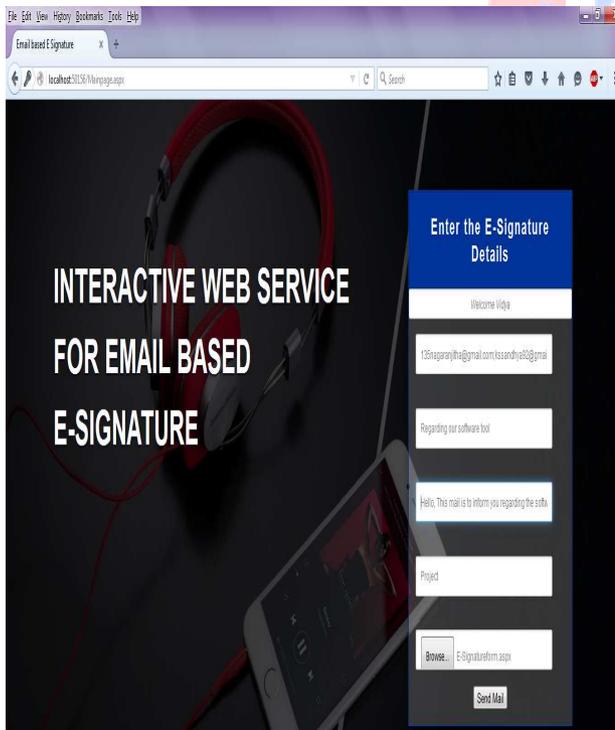
This project mainly deals with the DLL which is very essential throughout the project. DLL (Dynamic Link Library) acts as an interface i.e; we can use the same DLL throughout the project without writing the code again and again for same task in different programs or projects. The main use of this IWSEE project is Requester can send mails to one or more recipients without writing of codes to all the clients for getting E-Signatures from different clients at the same time instead we use DLL to the project for sending mails to the multiple client to get E-Signature from client by just importing the DLL's.

The recipients reply to the requesters' requests through web service developed by the IWSEE. The recipients replies to the E-Signature like Accept/Decline or even he can comment to the textual document. The web service will send all the signatures back to the requestors using the same transaction id which is used before, so that all the requestors will get the responses according to the request sent by the recipients. With the use of transaction id we communicate form recipients to clients, so that data is authenticated.

The web service is created to accept all the E-Signatures from the recipients. The recipients may give the parameters like the attachment containing yes or no option, expiration date for the clients to accept the signatures, to send all the clients signatures to the recipients after every clients received etc... We should create such a web service which accepts for all the types of parameters. We should create a web service in such a way that all the recipients' requests satisfies. Web service will send all the requests from the recipients to the particular client using the transaction id which is created already. The client will receive the mail from the web service. The web service will send the link to the client, in which he opens and responds to all the signatures sent by the requesters and sends back to the web service. After the recipient/s makes the E-Signature and submits, the admin of the website must check whether all signatures have been received.When all signatures are received, the request will be closed and sent back to the requester indicating all signatures statuses with the unique IDs.

REFERENCES

[1] DT Edition services NET 4.0 Programming, Black book,2015.

[2] C# 2012 Programming Black book covers .NET 4.5 by kogent learning solution Inc.

[3] Microsoft SQL server 2014 Technical overview.

[4] Restful Web Services by Leonard Richardson and Sam Ruby

Figure 8: E-Signature Details

VIII. CONCLUSION