Quant Solutions Electronic Id Verification Tender Document

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Contents

1 Description

In this project we are required to create an application that will verify and validate the identity of an individual. This verification and validation should be done using the individual's identity number, name, surname and a photo of their identity document. This data will then be compared to data stored in a database for authentication. The application should then give a percentage match score. Some of the technologies are PostgreSQL, Python and JavaScript since this application has to do most of its functionality will be does in the web based app.

The technologies we decided or considering include:

PostgreSQL

Legendary reliability and stability: Unlike many proprietary databases, it is extremely common for companies to report that PostgreSQL has never, ever crashed for them in several years of high activity operation. Not even once. It just works.

Extensible: The source code is available to all at no charge. If your staff have a need to customise or extend PostgreSQL in any way then they are able to do so with a minimum of effort, and with no attached costs. This is complemented by the community of PostgreSQL professionals and enthusiasts around the globe that also actively extend PostgreSQL on a daily basis.

Cross platform: PostgreSQL is available for almost every brand of Unix (34 platforms with the latest stable release), and Windows compatibility is available via the Cygwin framework. Native Windows compatibility is also available with version 8.0 and above.

Designed for high volume environments: We use a multiple row data storage strategy called MVCC to make PostgreSQL extremely responsive in high volume environments. The leading proprietary database vendor uses this technology as well, for the same reasons.

GUI database design and administration tools: There are many high-quality GUI Tools available for PostgreSQL from both open source developers and commercial providers.

JavaScript

Easy to set up: JavaScript is a free client-side language which does not require a server to run and need to add any libraries.

Ajax: It has the use of the asynchronous that allow the app to interact asynchronously with the server without loading the page. The app will be update without loading anything this will increase the processing of the app in retrieving data.

Powerful and Free Frameworks and Libraries: JavaScript has many popular and very reliable frameworks and libraries are available for free for developers this will reduce the cost of the development of the app. Among the frameworks are AngularJS, Backbone.js, and Bootstrap. The popular libraries are jQuery, Prototype, and Dojo.

Python

Very flexible: Python is a dynamically typed language. This means there are no hard rules on how to build features, and you'll have more flexibility solving problems using different methods.
Django: it is a high-level Python Web framework that encourages rapid development and clean, pragmatic design.

Scanning technology:
For this functionality, there is a variety of open source or free technologies to choose from. (i.e. Google Gives Away Free Web Application Security Scanner). we just have to engage with the client and seek advice from the relevant stakeholders to decide on an effective and secure technology.

Face recognition technology:
For this functionality there many face recognition to use which include OpenCv, Dlib c++ Library, Imacondis Face SDK and others. This will be easy because of the flexibility of python including this libraries will be easy and all of them are fast to use.

System Deployment Diagram.
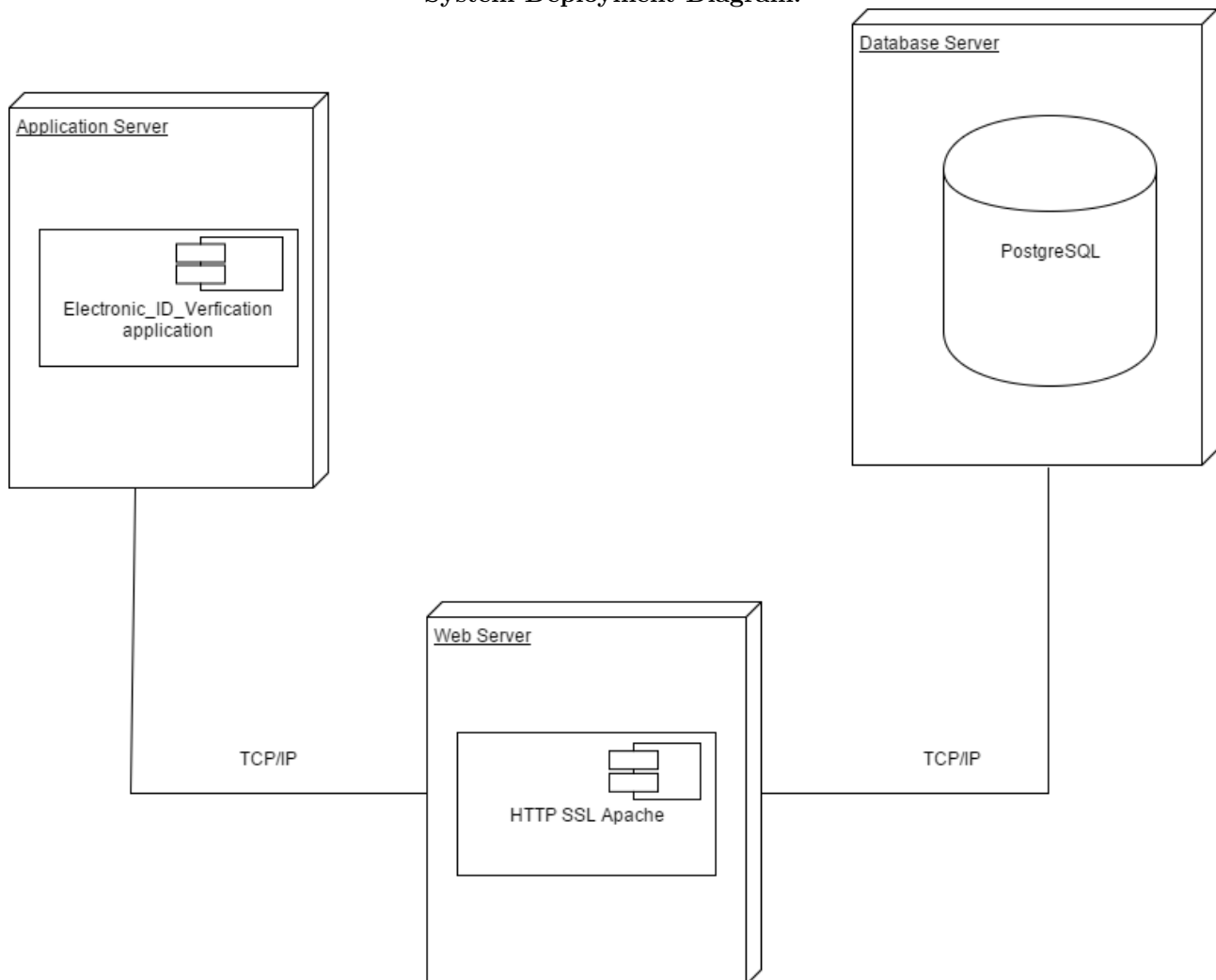
2   Methodology

We are going to use the agile software development methodologies – as they emphasize real time communication and a relatively high customer involvement. We as a team will be working closely together (pair programming) and we will be meeting at least a week to work on the project. We are also be planning to be in constant communication with the lectures so that they can assist when we need help and track our progress.

As a team we think we should be in constant communication with the client so that they are aware of the development and the progress the team is making. The client should also be notified or consulted with projects enhancement or module improvements.

Documentation is another important part of our methodology as it will also assist and facilitate communication between all the stakeholders involved in development process. Documentation is particularly important to the development team as it will focus our efforts in the same direction since we all understand and have the same goal.

3   Team members details

Our team consists of 5 individuals in the final year of our BSc Computer Science and Information Technology degrees, we all have similar skill sets with relation to coding software engineering.
The programming languages we are more familiar with include:

- C++

- Python

- Java

- Web scripting languages (both MEAN and LAMP stack)

- Shell scripting (Linux and Windows)

- Assembly language

The set of skills that we have are not limited to those we are taught(as students). As a programmer the ability to learn and adapt quickly is very essential. As a team we believe that we have this ability in abundance.

The project will be divided up into segments with whichever member feels they will produce the best final product in and because we will be meeting and working together, all members will come together and consolidate the system to make sure it meets with the client's expectations.