Web Search and Rationale

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Abstract

HR at the client’s company frequently receive requests from their past employees asking for documents. These documents include their pay stubs, employment contracts, references, awards, training certificates etc. The HR department sends these documents currently via email. This is a very tedious process as not all documents are secure when sent via email. Also, HR managers spend up to 4 working hours supporting these issues. Moreover, it is difficult to keep track of these requests and if/when these documents were sent.

Developing Alumni Portal will let the past employees register themselves (using email or phone matching company records) and then download their own documents from the existing database will reduce the workload of the HR department. In addition, all the employee data will be available for HR employees in case of any audit or other authorized requests.

Business/Technological Purpose

First and foremost, technology affects a firm’s ability to communicate with employees. In today’s busy business environment, it is necessary for employees to interact between themselves quickly and clearly. Websites allow customers to find answers to their questions after hours. Fast shipment options allow businesses to move products over a large geographic area. When people use technology to interact with a business, the business benefits because better communication creates a stronger public image and decreases spended time.

It is a good and cost saving trend all over the world to automate all the repetitive business processes. The client aims to become less dependent on the availability of human resources since it will reduce annual money spent for salaries, improve track of sharing documents, decrease time when former employees receive access to the already existing archive in the Alumni Portal.

This application will allow past employees to create their own account using their email/phone for verification and then give access to the documents they’ve requested. HR must upload documents when employees work, so they do not have to have calls, search, scan, send after employees quit the company. Some people join a client’s team again after some time of working for other companies. This case HR has no need to input any data, just keep using the existing. This technology also helps the business preserve precious resources such as time and physical space.

**Main strengths, techniques**

The Web site will be secured from external influence since it will be done using NODE.JS, Docker, MongoDB. All these techniques have low violations risks and are flexible to modify. Because Alumni Portal will be used to output information only, it decreases vulnerability as well as impact for the other critically important customer’s equipment and code.

Since we plan to use Docker, the containerized application can be deployed to any other system where Docker is running and we are sure that the application will perform exactly as it did when we tested it.

Docker will allow us to move through the various stages of the application lifecycle, have total confidence that an image we create during development will perform exactly the same as it moves through testing.

In a discussion of Node.js advantages and disadvantages programming flexibility is perhaps the biggest benefit of all. If a change in Node.js is required, only that node code is affected. Where other run time environments or frameworks may require to make changes all the way back to the core programming, it doesn’t require anything more than a change to the Node.

Last, but not least is to choose a database model. Our choice is MongoDB since it is schema-less: In relational databases, we must create tables, schemas, and relations to identify and organize the data. On the other hand, MongoDB is a schema-less database that does not require the creation of tables and other rigid, pre-defined schema. As a document database, MongoDB stores all the records in a single collection. MongoDB has no joins: In RDBMS, connecting two or more tables is challenging as it requires using joins. MongoDB has no complex joins, and changing the document structure in MongoDB is easy, allowing us to connect other documents with no difficulty.  No primary key set-up: When using RDBMS, setting up a primary key is necessary. In MongoDB, there is no need to explicitly create a primary key. The NoSQL database offers an \_id field, created by default, with every document. This created field acts as a primary key. The reserved \_id field serves as the primary key in MongoDB, and it must be a unique value. It is important to note that if there is no set up to the \_id field, MongoDB fills it with "MongoDB Id Object" automatically.

**Comparison**

Archiving electronic documents as an independent and safe from other actions solution together with the access for ex-employees is a new solution. Of course, the companies like ABBYY can modify their applications and databases according to our client’s requirements, but it will take much more resources in the meaning of price and timing together with many unuseful options for Uvesh Shashmadar. This local archive is a solution that has to be cheap and flexible together with high security, so for this task rapid, cost-saving Samurai Team fits in the best way.

**Discussion of cos**t

In the financial sense it should be cheaper to use their own application and not to budget payments for other companies, so it may help save money. Because the solution from ABBYY is unflexible in future development, cost more money at the start and time of using it may lead to an unprofitable project. The solution from Samurai Team will be done according to the requirements, safe, in budget and cost no money for the client after it is done.

Competitors

ABBYY

Pricing

|  | number of weeks enrolled | number of developers involved | number of project managers involved | salary of developer per hour | salary of project manager per hour | salary for one developer | salary for all developers | salary for project manager | sum for developers and project manager |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Inception | 3 | 3 | 1 | 25 | 30 | 375 | 1125 | 450 | 1575 |
| Analysis | 2 | 3 | 1 | 25 | 30 | 250 | 750 | 300 | 1050 |
| Design | 1 | 3 | 1 | 25 | 30 | 125 | 375 | 150 | 525 |
| Construction | 4 | 3 | 1 | 25 | 30 | 500 | 1500 | 600 | 2100 |
| Testing | 1 | 3 | 1 | 25 | 30 | 125 | 375 | 150 | 525 |
| Transition | 1 | 3 | 1 | 25 | 30 | 125 | 375 | 150 | 525 |
| **Summ** |  |  |  |  |  |  |  |  | **$6300** |

Conclusion

It is advantageous and safe to have separated storage for the electronic documents of the ex-employees. Because all the competitors propose more complicated solutions these solutions will be less flexible for the task, more risks for violations and cost more money. Samurai Team can create the application faster(means with the less budget as well) than competitors can modify their programs.

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