**Anthem Dashboard Development**

**CMSC 451 Senior Project CM327**

**Problem Statement:**

Anthem manages large amounts of customer health insurance claims each month. These records are committed to a database through bulk transactions and procedures. These procedures and transactions are attempted and can result as successful, failed, or hanging. Without a visual aid to examine these transactions it is difficult to determine what their status is.

**Objective:**

Currently Anthem has a database which is recording in an autonomous manor information about these database recording procedures. Their system has 22 different tables and various procedures to handle this information. Yet all the procedures needed a constant monitor in case of unexpected delays or false termination. Anthem would like to develop a software solution to monitor all the procedures, and alert them with the completion status of a procedure/transaction. Ideally this software in the future will be able to help them predict when those procedure are more likely to have errors occur.

**Value proposition:**

Our client Anthem and their desired users should have a comprehensive view of all incoming data & trends associated with the transactions/procedures over time. To improve the ease of use and operating model, the application will be device responsive. Which means the application will be viewable on a mobile phone, tablet or a computer and can improve support response. Our functional proof of concept application will meet this definition and include all features defined herein. Our completed prototype will be demonstrated to our business stakeholders. This solution should be integrated with non-production systems.

**Technical volume:**

We have developed our working environment on Amazon Web Service (AWS). A prototype web-based API. Our application will be built leveraging a MEAN Stack Web Application architecture. This consists of (MongoDB, Express, AngularJS, and NodeJS) Our database MongoDB will receive procedure duration time data and flag unexpected long or short run time. Our database will be able to store information about all 22 procedures. Express will be used as communication facilitator between our User Interface developed in AngularJS and our Database MongoDB. Finally, NodeJS will act as our server to serve up requested application pages to our users and provide an interactive, page responsive, and complete application. Our User Interface will display the conclusive details about a Job including average values using the sample data. We will extract the job start time and end time of the given data and use that information to calculate an average and the standard deviation of the elapsed time. We will also develop a notification system so that it will give the system administrator a heads up when there is a possibility of unsuccessful transactions or errors. We will use the average time to determine if the process is successful, hanging, or when a failure occurs. Lastly, we will make a visual/graphical representation of the data to show the average recorded times of previous intervals consisting of days, weeks, and months

**Management Volume:**

**Stake holder**

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**Cost volume:**

We are using AWS Marketplace free software products that run on the AWS Free Tier. We use these products on an Amazon EC2 t2. micro instance where we can use up to 750 hours per month and pay no additional charges for the Amazon EC2 instance during the 12 months.

**Resource volume :**

We need skills with MongoDB, Express, AngularJS, NodeJS, T-SQL, python, JavaScript, Excel and basic knowledge with AWS. Dr. Dahlberg is our management support leader and we meet with him every two weeks and continue to discuss the problems and issues that we face. The project still has one more semester until it is complete. Once our application and the project is completed we will hand it over to the Anthem team and Dr. Dahlberg.