

<b>Title:</b> Database Project for BOE - Deliverable 1	<b>Version:</b> 1
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## **Project Initiation Document**

**Prepared by: Pete Cipolone**

**Organization: Team Snakes**

## 1 Purpose

This document defines the Software Development Life Cycle (SDLC) elements necessary to declare that Operation Database Warehouse is fit for its intended use. The purpose of this project is to provide Mission Solutions Engineering a prototype database for estimating metrics of their future projects or to be used for project bidding purposes.

## 2 Scope

The purpose of this project is to create a database that will work as a data warehouse. That is to say it will store information from file types such as csv files. The content of the files will be separately stored into the warehouse depending on what department and project the file deals with. The data from these files will be used by the database to make a BOE for future projects. Administrators will be allowed to input these files into the database, all other users will be able look at the data that the database will be outputting. Functionality of storing this information correctly (this includes errors any file might create on input) and in an organized matter along with making useful BOE's from said information is the crucial point of this project. Security along with the ability to take in any file extensions inputted by an administrator are not explicitly included in this project and will be treated as such during development.

### 2.1 Exclusions, Assumptions, and Limitations

- Exclusions: At the present time of the creation of this document security has not been designated a critical part of this project, and will be treated as such, if time permits we will be adding security features such as whitelisting. Taking in any file type is also not designated as a crucial part of the project, but error handling will of course be set in place to deal with incorrectly formatted files.

- Assumptions: since MSE is very strict on their privacy because of the type of work they deal with, it will be assumed by us that we will not have any of their actual data to go off of during the creation of this database. We also assume that they will provide us fake data to use as a basis for structuring and testing the product or they will help guide us to make our own input data for the database.
- Limitations: Privacy being so critical to MSE provides a small hindrance in communication; no face to face meetings or very specific data being provided by them. Time is the other limitation we will be dealing with, this project is to be completed according to the DoD by the end of sprint 5, approximately December 16th, 2016.

### 3 Intended Use

In business operations, much of the same data is used to build a variety of necessary artifacts. To create such artifacts with gathering disparate data can be manual and tedious. A data warehouse can be used to store this information so that it can be pulled and collated to create these artifacts. It is also designed to be used to support and estimate future projects.

### 4 Requirements

The requirements for this database are as follows:

- Develop a white paper design document for the approach and findings.
- Develop a Data Warehouse prototype for storing and collating data.
- Demonstrate how the data warehouse can take the data ingested and perform calculations to generate an artifact

### 5 Solution Profile

At this time, there are no plans for implementing any security controls for the solution profile. The data will be private, but for right now, it is expected that MSE will handle the privacy aspects. There are a few privacy records which will be handled by the application. These privacy records are employee names, job titles, and pay rates.

## 6 Design and Installation Information

Once the project is completed, it is then shipped to MSE. Since MSE has high security and rigorous rules regarding the privacy of their systems, MSE will be responsible for the design, installation, and integration of the database into their own system.

## 7 Deliverables List

Since Scrum is being used for this project, the deliverables are subject to change for each increment, but there are several necessary parts of the project which will be delivered no matter what. They are as follows:

- Tables containing information regarding employee ID numbers, job titles and pay rate
- Past projects with metrics such as cost, number of developers, number of hours etc.
- Calculator which can look at past projects and calculate an accurate estimate about a future project.

See Appendix A for a list of required elements for this project and how they will be documented.

For each element listed, Appendix A identifies if there is an existing document which will be produced or updated. Note that for each element type presented in the left-hand column, multiple documents may be created depending on the documentation approach selected by the project team.

## 8 Deployment Strategy

Site specific activities and deliverables, if applicable, shall be determined by the Development team. The Site team will develop their own SDLC Planning according to IT procedures. The following dates are scheduled to produce increments of workable software to allow MSE to view progress and to provide constructive feedback. Increments are will be provided at each sprint review excluding sprint review 0.

Date	Itinerary
9/23/2016	Daily Scrum (15 min)
9/30/2016	Sprint 0 Review (15-30 min)
	Sprint 0 Retrospective (15 min)
	Sprint 1 Planning (15 min)

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	Daily Scrum (15 min)
10/7/2016	Daily Scrum (15 min)
10/14/2016	Sprint 1 Review (15-30 min)
	Sprint 1 Retrospective (15 min)
	Sprint 2 Planning (15 min)
	Daily Scrum (15 min)
10/21/2016	Daily Scrum (15 min)
10/29/2016	Sprint 2 Review (15-30 min)
	Sprint 2 Retrospective (15 min)
	Sprint 3 Planning (15 min)
	Daily Scrum (15 min)
11/4/2016	Daily Scrum (15 min)
11/11/2016	Sprint 3 Review (15-30 min)
	Sprint 3 Retrospective (15 min)
	Sprint 4 Planning (15 min)
	Daily Scrum (15 min)
11/18/2016	Daily Scrum (15 min)
11/25/2016	Thanksgiving
12/2/2016	Sprint 4 Review (15-30 min)
	Sprint 4 Retrospective (15 min)

Sprint 5 Planning (15 min)

Daily Scrum (15 min)

12/9/2016      Daily Scrum (15 min)

12/16/2016    Sprint 5 Review (15-30 min)

Sprint 5 Retrospective (15 min)

## 8.1 Strategic Deployment Approach Overview

- 1) Configuration approach: No, the deployments will not allow local configuration of the solution because this is a web-based approach which will be on the internet, or on MSE's intranet. Anybody within the Intranet or through a secure VPN connection will be able to access the database, but only a few people will be able to add or delete content to it.
- 2) Deployment model: The deployment model will be web based and will be deployed in increments. The first couple of increments will be a finished design and a very basic prototype with only a few requirements. The later increments will be delivered in succession, each time being a more advanced prototype with more finished requirements. If there is time, some of the optional requirements will be implemented.
- 3) Localization approach: The solution will support only the English language and benefit English speaking people. As a result, this project will be localized to English speaking countries.
- 4) Additional characteristics: There are no additional characteristics.

## 8.2 Training Impact

Administrator training: Administrators will need to be informed on what types of files the database can accept, they will also need to be trained in how to input files into the database.

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Employee training: Any employee can access output from the database and because of this will need to be trained on how to interact with the user interface that interacts with the database.

Developers: Anyone working to maintain this system will need to be walked through the basic outline of the structuring of the database created for this project along with what everything within does and also how the database handles errors. This will be provided in the form of documentation.

### **8.3 User Access**

Any MSE employee or user with permission may use the database to pull the data. Only special users with the proper permissions may add, delete, or alter the data.

### **8.4 Support Approach**

Once the project is completed the original members working on the project will not be available to make any necessary future changes, as such documentation will be provided that include details on the database structure and code breakdown. At least one person with experience in dealing with databases should be assigned to this program to perform any necessary updates or changes that the database might need. This may include things like software updates for the database and internal changes to the database structure and code based on changes made within the structure of the company for future projects.

## **9 Verification Approach**

Sprint Reviews (as shown in schedule above) is used to update Product Backlog. The product increment is inspected with the stakeholders. During the review, stakeholders are encouraged to provide feedback and to collaborate with the product owner and development team. There is no concrete evidence for verification purposes, but with each Sprint Review, a demonstration with the product is performed and the stakeholders can visually see the integration and functionality of the sprint increment. At the end of Sprint Review, the Product Backlog is updated upon the new insights. Each increment is verified on a bi-monthly basis as meeting the definition of done based on the accepted requirements which were agreed upon by the product owner and the stakeholders.

## **10 Verification Evidence**

There is no concrete verification evidence, but rather, the verification is done in real time with the stakeholders watching the entire process over a screen sharing tool. Sample data is inputted into the system and the sprint increment is verified that it works properly. That same input is then used to operate

the system as a whole to prove that the increment works, not just by itself, but also within the entire system.

## 11 Roles and Responsibilities

Role	Responsibilities
Product Owner	<p>Responsible for maximizing value of product and work of development</p> <p>Also responsible for managing backlog which includes:</p> <ul style="list-style-type: none"><li>• Clear expression of backlog items</li><li>• Ordering items in backlog to best achieve goals</li><li>• Ensures backlog is visible to all and shows what's next</li><li>• Ensures development team understand items in the product backlog as needed</li></ul>
Scrum Master	<p>Responsible for ensuring scrum is understood and enacted, done by ensuring team adheres to scrum theory, practices and rules. Also helps those outside scrum team. Understand which of their interactions with the team are helpful and not helpful.</p> <p>Provided to product owner:</p> <ul style="list-style-type: none"><li>• Finding technology for backlog management</li><li>• Help team understands need for clear concise product backlog items</li><li>• Understanding product planning</li><li>• Ensuring product owner knows how to arrange product backlog</li><li>• Understanding and practicing agility</li><li>• Facilitating scrum events</li></ul> <p>Provided to development team:</p> <ul style="list-style-type: none"><li>• Coaching development team in organization and cross function</li><li>• Helping development team</li><li>• Removing impediments to the development team's progress</li><li>• Facilitating scrum events as needed</li></ul> <p>Provided to organization:</p>



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	<ul style="list-style-type: none"> <li>• Planning scrum implementation with organization</li> <li>• Helping employees and stakeholders understand and enact scrum</li> <li>• Causing change that increases productivity of team</li> <li>• Working with other scrum masters to increase effectiveness</li> </ul>
Development Team Member	<p>Responsible for professionals who do the work of delivering a potentially releasable increment of “done” products at the end of each sprint. Structured and empowered to organize and manage their own work</p> <p>Characteristics:</p> <ul style="list-style-type: none"> <li>• Self-organizing (they decide how to turn backlog into increments)</li> <li>• Cross functional</li> <li>• Only titles are developer</li> <li>• No sub teams</li> <li>• Accountability belong to development team as a whole</li> </ul>

## 12 Terms and Definitions

Term or Acronym	Definition
MSE	Mission Solutions Engineering
Scrum	Framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value.
Daily Scrum	15-minute time-boxed event for the Development Team to synchronize activities and create a plan for the next 24 hours. In setting for this project meeting are done twice a week and always on Friday’s due to daily classes for all team members.
Sprint	Time-box of one month or less during which a “Done”, useable, and potentially releasable product Increment is created. Sprints best have consistent durations throughout a development effort. A new Sprint starts immediately
Done	Simple list of activities that add demonstrable value to the product
Sprint Review	Held at the end of the Sprint to inspect the Increment and adapt the Product Backlog if needed.
BOE	Basis of estimate

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Product Backlog	High level list of requirements which need to be completed. Usually consists of user stories. Created and maintained by the Product Owner.
Sprint Backlog	List of requirements which can be completed during the sprint. Created by the Development team.
Sprint Retrospective	Held at the end of each sprint. The team discusses what went well, what did not go well, and what can be improved.

#### Appendix: Element Deliverables and Responsibilities Matrix

<b>SDLC Elements</b>	<b>Justification / Comments, Document Name and Location</b>	<b>Bu sin ess Uni t</b>	<b>IT Tec hni cal</b>
Plan			C
Requirements (include CRS)		C	C
Design/Installation Information (Custom/Configured)			C
Verification Evidence		C	
Acceptance Statement		A	C A

C = Create

A = Approve