**ITWorks – Database Development Plan**

**(for Client)**

**Client Company Name:** **Shopping World**

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Version: 1.0

Date: 3/07/2023

Status: Draft

**For more information**

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**Revision History:**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | **Date** | **Author(s)** | **Change Description** |
| 1.0 | 22/03/2023 | Andre Alexandrov | *First draft.* |
| 1.1 | 02/07/2023 | Andre Alexandrov | Updated requirements |
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# Introduction

This section specifies the background information about the client company *(ShoppingWorld)* MongodB document.

It documents the plan for designing and implementing a prototype using the MongoDB Atlas will be covered for this document.

MongoDB Atlas cluster database deployed:

* Version: 5.0.15
* Region: AWS/ Sydney
* Cluster name: Cluster0
* Database name: ShoppingWorldDB

# Database Development Plan Objectives

This section specifies database development plan document objectives which defines the stages of the development involved from planning, requirement gathering ,… ,… , To implementation for a prototype.

Having a development plan helps making sure a product Is delivered on time, it is also a benefit by giving a ridged structure for development making sure every aspect is done, it also gives performance and progress indicators.

# Scope

* This section describes the overall scope of the database development.

The Scope of the database development is to upgrade the database from a relational database into a NoSQL database using MongoDB. The upgrade must also follow the business requirements such as being on the cloud and must maintain existing information. Tasks also include looking into which types of databases are most effective for the business. Once the database is selected, the database is setup to validate the schema, further optimizations of the database will be done by indexing. Once set up sharding and scaling will be implemented and tested, the efficiency of the database will also be tested using built in application. Lastly a REST API will be created which allows users to modify and obtain data from the database, further documentation of the api will also be included.

# Milestone, sub-tasks, timeline & resources

* This section describes all tasks and subtasks with the time and resources used.
* In the major tasks include the four stages. Each stage, you must include the time spend for researches, consultation/confirmation/review with client and the database tasks involved.
* For each major stage, suggest at least three tasks to be carried out with the dates and resources needed. Resources may include vendor software, reference materials, special hardware needed.

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| --- | --- | --- | --- | --- | --- |
| Task ID | Milestone / Major tasks/ subtasks | Date start | Date end | Resources needed | Review comments |
|  | Stage1: Requirements gathering, product selection and planning the database development | 27/02/2023 | 18/03/2023 |  | complete |
| 1 | Find Business requirements and applications to be used | 27/02/2023 | 27/02/2023 | Word | complete |
| 2 | Explain SQL vs noSql | 27/02/2023 | 27/02/2023 | Word | complete |
| 3 | Explain data stores | 27/02/2023 | 28/02/2023 | Word | complete |
| 4 | Databases for datastores | 03/03/2023 | 03/03/2023 | Word | complete |
| 5 | Determine database product | 03/03/2023 | 05/03/2023 | Word | complete |
| 6 | Determine scaling | 05/03/2023 | 09/03/2023 | Word | complete |
| 7 | Create schema diagram | 10/03/2023 | 18/03/2023 | Hackolade | complete |
| 8 | Finish Development Plan | 27/02/2023 | 18/03/2023 | Word | complete |
|  | Stage 2: Database setup, validation schema and data manipulation | 19/03/2023 | 31/03/2023 |  |  |
| 9 | Create MongoDB Account | 20/03/2023 | 20/03/2023 | Mongo Atlas |  |
| 10 | Create collections and database | 20/03/2023 | 20/03/2023 | mongosh |  |
| 11 | Insert into mongo compass | 24/03/2023 | 24/03/2023 | MongoDB compass |  |
| 12 | Write query statements | 25/03/2023 | 25/03/2023 | MongoDB compass |  |
| 13 | Schema validation | 26/03/2023 | 27/03/2023 | MongoDB compass |  |
| 14 | unstructured schema | 27/03/2023 | 29/03/2023 | MongoDB compass |  |
| 15 | Update and delete documents | 30/03/2023 | 31/03/2023 | MongoDB compass |  |
|  | Stage 3: Queries design, indexing and partitioning/sharding | 31/03/2023 | 19/05/2023 |  |  |
| 16 | Retrieve and implement time-to-live | 31/03/2023 | 02/04/2023 | MongoDB compass |  |
| 17 | Multi users and implement Sharding | 02/04/2023 | 10/04/2023 | MongoDB compass |  |
| 18 | Analyse through put | 10/04/2023 | 16/04/2023 | MongoDB compass |  |
| 19 | Update validators | 16/04/2023 | 19/04/2023 | MongoDB compass |  |
|  | Stage 4: REST APIs & Database Documentation | 19/05/2023 | 16/06/2023 |  |  |
| 20 | Create API | 19/05/2023 | 21/05/2023 | Visual Studio code |  |
| 21 | Database Trigger and data encryption | 21/05/2023 | 28/05/2023 | Visual Studio code  mongoDB Compass |  |
| 22 | Document Database | 28/05/2023 | 16/06/2023 | Word |  |

# Scheduled meetings with client

* This section describes when to meet the client to report the progress and obtain the review/feedback from client.
* Give specific dates to meet the client, name of the major stage, ITWorks DB designer, & the name of the client representative to meet

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| --- | --- | --- | --- |
| Proposed date | Name of the major stage to review | Name of the client Representative | Name of ITWorks database designer |
| 13/03/2023 | Requirements gathering, product selection and planning the database development | Joe Black | Andre Alexandrov |
| 27/03/2023 | Database setup, validation schema and data manipulation | Joe Black | Andre Alexandrov |
| 15/05/2023 | Queries design, indexing and partitioning/sharding | Joe Black | Andre Alexandrov |
| 12/06/2023 | REST APIs & Database Documentation | Joe Black | Andre Alexandrov |

# Changes suggested from clients

Nil (at the planning stage)

* This section records the changes being raised.
* No need to fill at the initial planning stage.
* Need to record the changes when there is a request from client.

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| --- | --- | --- | --- |
| Date requested the changes | Changes to be made | Name of the client representative | Actions to be taken |
| 31/12/2023 | Remove phone type and phone number from customers validator | Joe Black | Create a new Customer validator that does not include the phone number or phone type. |
| 31/12/2023 | user password be encrypted when sending request from the client to the server in the user authentication process | Joe Black | Implement client-side password encryption before the password is sent for the authentication process |
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# Approvals

|  |  |  |  |
| --- | --- | --- | --- |
| **Name and signature** | **Title** |  | **Date** |
|  |  |  |  |
| **1. Joe Black** | Database Administrator |  | 28/04/2023 |
|  |  |  |  |
| **2.Andre Alexandrov** | DBA Consultant |  | 28/04/2023 |