The Max Inventory System



**Team Awesome**

|  |  |
| --- | --- |
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Client Documents

**Opening Statement**

Milestone 6 of The Max Inventory System has been completed. The development of this system continues to remain on schedule and on budget.

**Executive Summary**

With technology today, bars can make a more efficient use of time and energy by using a system to track inventory. Using an inventory system, a bar can track which items they need to reorder, which items are most popular and which items should be discontinued from their purchases.

We are currently in the process of designing a system around the liquor usage at The Max. This application will allow them to make orders more easily. As inventory increases this system will be a good complement to the already successful bar.

This milestone contains documents to describe The Max Inventory project. The key documents for this milestone include:

* Project Management Chart for Semester: Details individual tasks needing to be completed for this project. These tasks include each document for the milestones and final project. This will also include the tasks for the prototype of the inventory system. These tasks include everything needed to complete the rest of the system. This chart will also track the hours spent working on the system as well as the resources that were involved in each task.
* Computer Architecture Design: This will include both, a request for proposal and an actual architecture document.

The request for proposal’s purpose is to ask for bids from vendors who are interested in fulfilling the requirements of the hardware needed to run the system through a bidding process. It will lay out the standards and instructions by which the proposal will need to be submitted. It will also explain requirements of the hardware that will be needed to run the designed system. The request for proposal also gives the evaluation criteria by which the proposal is reviewed.

The actual architecture document will outline the specific computer hardware that will be needed to run the new system. This document will also explain the process by which the hardware will be acquired. In addition, the process will describe who will be doing the purchasing and who will approve of the purchasing of the hardware.

* Comprehensive Systems Controls Plan: This document will help ensure business continuity. The system will be designed so that foreseeable problems are prevented from happening, so that the business can continue to operate normally. This document will allow the client to have written quality controls of the designed system.
* Input/Output and Interface Design: These will be forms and screens that the user will be using to perform various actions in the system. These forms will be in Microsoft Access and Team Awesome will design the layout of them. Inventory ordered will be entered through these forms. Data will also be pulled from the database regarding current levels of inventory through this these forms. The purpose of the design is to make the system user friendly for the client. The client will have no training from Team Awesome and employees of The Max will not always be tech savvy, so being user friendly is a major part of the design. Design of the interface and forms is being done in the current milestone to save time and effort during the rest of the project.

**Implications for Client**

There are no implications for client for Milestone 6.

**Items for Approval**

There are no items for approval for Milestone 6.

Project Documents

**Project Management Chart for Semester**

<<See attached MAX.mpp>>

**Input/Output and Interface Design**

<<See attached MAX.accdb>>

**Computer Architecture Design**

**Request for Proposal**

1. **Introduction**

The Max, a dance club located in downtown Omaha, is requesting an inventory tracking system be implemented at their club. The system will use a database to track current inventory and assist in knowing what quantities of liquor will need to be ordered to replenish the necessary stock. Team Awesome will be designing the database and implementing the system. The Max is accepting proposals for the hardware of this system. The purpose of this request for proposal is to find a candidate to provide the necessary hardware to implement this system.

1. **Standards and instructions**

The date of issue of Request for Proposal will be Saturday March 3, 2018

The date bids are due will be Friday, March 23,2018

The contract will be awarded Friday, March 30, 2018

The proposed date of system implementation will be Saturday, May 5, 2018

**Ground rules that will govern selection decision**

The vendor must only speak with Team Awesome, as they are the team implementing the system. The liaison for the team is Justin Hendricks. Any questions should be directed to him by email at jhendricks01@unomaha.edu.

**Costs**

All contractually obligated costs will be The MAX’s responsibility, cost of bids will be the responsibility of the vendor.

**Format for proposal**

Word documents associated with a proposal shall be in a .docx or .pdf format.

The proposal shall include the hardware proposed for the system, along with pricing and options for the hardware.

**Demonstration Expectations**

Demonstrations are not permitted.

**Contractual Expectations**

All contractual expectations will be in writing. No oral agreements will be valid.

The hardware will be paid for 100% at the time of purchase. Details of the contract will be kept confidential and will not be discussed with other vendors.

**References Expected**

Each proposal must be accompanied with at least one reference of a previous client that has acquired a similar system. The work done for this reference must be of a comparable technology. The reference must also contain up to date contact information.

**Documentations expectations**

Any documentation provided during implementation will need to be provided in .pdf format. These documents will include any user manuals and warranty information if any is provided.

1. **Requirements and Features**

**Hardware**

PC that will be compatible with Microsoft Access.

**Processing Volume:** The system will need to run a transaction every time the inventory is updated. A transaction will also run every time a report is generated. The inventory will be updated either after the bar closes for the night or each morning before it opens. The amount of transactions per day could vary depending on how many reports are run. On average the amount of transactions should be 10 or less per day. The number of transactions is not expected to grow.

**Data Storage Volume:** This system will not generate much data. It is estimated that the storage needed to store the data will be 8180 bytes. The system will grow at a slow rate since it will only be updated once a day with the changes in inventory levels. Annual growth is expected to be 4800 bytes.

**Communications Volume:** There will be no communications since the data entry and reporting will take place locally on the same machine.

**Usage Volume:** Only 1 user at a time

**Software:** The software we will be running is listed below, any hardware will need to operate with this software.

Microsoft Windows 10 Operating System

Microsoft Office 2016 (Access specifically)

**Service**

Post implementation service will include a 1-year warranty, that will cover expenses associated with repairs to system. This service will be normal business hours and will cover any malfunction of the hardware.

1. **Bid Evaluation**

**Technical Evaluation Criteria**

The technical aspects will be evaluated based on the criteria of set forth in this Request for Proposal. The evaluation will include storage capabilities. Price will also be a consideration.

**Vendor Evaluation Criteria**

Vendor is to have a respectable reputation and submit at least one reference with a similar system. The reputation from the vendor can come from online reviews or associations like the Better Business Bureau. A 1-year warranty will be required for the proposed system.

1. **Conclusion**

The MAX will use this database system to more efficiently track their inventory. All vendors are welcome to submit bids for this proposal. Team Awesome looks forward to reviewing all bids and will select the best bid submitted by the due date on Friday, March 23, 2018. Please submit all bids to jhendricks01@unomaha.edu.

**Actual Architecture**

**Client Architecture:**  This system will run on a single Windows based PC. This PC will be responsible for storing the Access database. The PC specifications are:

**Brand:** Dell

**Model:** I3455-10041WHT

**Memory:** 8 GB

**Hard Drive:** 1 TB

This specific model was selected because it is an all-in-one unit which makes for a convenient package. This model also offers sufficient memory for the needs of the system.

The system will also use an external hard drive for back up. The specifications for this hard drive are:

**Brand:** Western Digital

**Model:** WDBYNN0010BBK-WESN

**Hard Drive:** 1 TB

**Administration:** After implementation management staff at The MAX will be responsible for maintenance of this system.

**Procurement Process:** The MAX will purchase this PC and hard drive from Best Buy. The owners will approve the purchase and the general manager will purchase the equipment.

**Comprehensive Systems Controls Plan**

**Introduction**

The purpose of this document is help ensure business continuity. The client will need to process transactions without interruption in the event of a threat. This document will help to document the quality control related to this system.

**Data Entry Controls**

**Input Errors** can be a typo from a user inputting a change in inventory. For example, ‘11’ instead of ‘1’ for a quantity of bottles.

* Check to make sure all fields have a valid entry by using inputs masks where available
* Validate that all fields have the correct format by using input masks and field validation rules
* Use combo boxes when applicable, to help minimize input errors
* When making an entry to adjust inventory levels, we will set amount ordered or amount taken out data to be a required field

To ensure valid entries are made into the system input masks and field validation rules will be used within Access.

**Output Controls-** the data in this system is not confidential so output controls will not be necessary.

**Database Controls** are useful to properly maintain an up to date and accurate database. These controlswill include a backup to an external hard drive. This will help to ensure that in the event of a system crash, causing corruption of data or data loss, the system will be easy to restore.

* Database will be backed up every week on pc and external hard drive

The backup will be performed by the General Manager, and will be kept on an external hard drive. The external hard drive will be stored in a fire-proof locked safe in the administrative office in The Max.

**Access Controls** ensure that only people with proper credentials access the system. This will help keep data from being breached. These controls will include using a password to gain access to database. This will help to ensure that only people with proper credentials are using the system.

**Software Controls**

**Unintentional Errors** are errors that were left in the code by the developer on accident.

* **Software bugs** will be avoided by thorough testing of the database. It is important that data is put in and stored accurately to have proper reports generated.

**Intentional Errors** are errors that are caused by someone outside of the organization. These errors are done with the intent of hurting the organization.

To avoid intentional errors, such as viruses and malware, an anti-virus will need to be installed. Team Awesome suggests using Symantec. This software will be scheduled to run weekly to keep up with scans and updates.

**Hardware Controls**

**PC Control** will begin with the PC remaining in the existing office, which is kept locked when no one is in there. The PC and external hard drive will utilize a surge protector. The external hard drive will be kept in the fire-proof safe that is currently in office.

**Disaster Recovery Section**

**Contention Plan**

In case of a disaster the PC will be in a locked office, and the external hard drive will be in a fire-proof locked safe. The safe should protect against most natural disasters that might occur in this region. If a disaster is predicted to happen, the system will be shut down and stored. The user will then use their contingency plan. In the event of an unpredictable disaster, such as a fire, the system will remain running and be shut down when possible to preserve hardware as much as possible. Users will be advised to seek personal safety first and foremost in the event of a natural disaster. Safety of all employees and consumers is a priority of the club, with all else following suit.

**Contingency Plan**

In the event of a disaster the client will resort to using their current method of pen and paper while the system is out.

**Recovery Plan**

In the event of a recovery, if the PC is not operable a new one will be purchased. When a working PC is established, the backup from the external hard drive will be mounted on the PC. The pen and paper transactions will then be input into the system so the data in the system is up to date.

**Control Documents**

**Roles and Responsibilities**

**Milestone 6**

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Responsibility** |
| Justin | Client Liaison/Systems Control Document | * Organizing meetings between customer and Team Awesome * Completion of the Comprehensive Systems Control Document |
| Paul | Computer Architecture Design | * Creation of Request for Proposal Document * Creation of Actual Architecture and client hardware procurement process documents |
| Collyn | Milestone Manager | * Managing documents for group * Assigning deliverables to group members * Revision of client document to reflect Milestone 6 * Revision of meeting communications and control documents to reflect Milestone 6 |
| Tom | Project Management/Gantt Chart/Milestone Collaborator | * Update the Gantt chart from Milestone 6 to reflect completed tasks and in progress tasks * Help Aziz with the creation of I/O and interface design * Help others update documents based off feedback |
| Abdulaziz | Input/Output and Interface Design | * Create I/O and Interface Design in Microsoft Access |

**Meeting Communications**

**Milestone 6**

**Date:** 2/15/18

**Time:** 6:30 PM

**Location:** UNO Criss Library 102b

**Present:** Paul Naumann, Tom Jorgensen, Justin Hendricks, Abdulaziz Matar

|  |  |  |
| --- | --- | --- |
| **Item** | **Responsible Party** | **Comments** |
| Summary of group meeting | Team Awesome | * Began working on first draft of Milestone 6 documents * Set responsible parties |

**Handouts:** None

**Discussion:** See Comments

**Date:**  Week beginning 2/12/18

**Time:** All week

**Location:** Group text/ slack.com chat

**Present:** Paul Naumann, Tom Jorgensen, Collyn Sansoni, Justin Hendricks, Abdulaziz Matar

|  |  |  |
| --- | --- | --- |
| **Item** | **Responsible Party** | **Comments** |
| Summary of group text/ slack.com chat | Team Awesome | * Discussed required documents for Milestone 6 * Assigned Collyn as Milestone Manager |

**Handouts:** None

**Discussion:** See Comments

**Date:**  Week beginning 2/19/18

**Time:** All week

**Location:** Group text/ slack.com chat

**Present:** Paul Naumann, Tom Jorgensen, Collyn Sansoni, Justin Hendricks, Abdulaziz Matar

|  |  |  |
| --- | --- | --- |
| **Item** | **Responsible Party** | **Comments** |
| Summary of group text/ slack.com chat | Team Awesome | * Assigned due dates for documents * Discussed in-person meeting times |

**Handouts:** None

**Discussion:** See Comments

**Date:** 2/22/18

**Time:** 6:30 PM

**Location:** UNO Criss Library 102b

**Present:** Paul Naumann, Tom Jorgensen, Justin Hendricks, Abdulaziz Matar

|  |  |  |
| --- | --- | --- |
| **Item** | **Responsible Party** | **Comments** |
| Summary of group meeting | Team Awesome | * Created first draft of Request for Proposal |

**Handouts:** None

**Discussion:** See Comments

**Change Log**

**Opening Statement**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 9/6/17 | 1 | Creation of Opening Statement | Created Opening Statement document |
| 10/4/17 | 2 | Revised Opening Statement | Revised Opening Statement to reflect Milestone 2 |
| 10/16/17 | 3 | Revised Opening Statement | Revised Opening Statement to reflect Milestone 3 |
| 12/8/17 | 4 | Revised Opening Statement | Revised Opening Statement to reflect Milestone 4 |
| 1/15/18 | 5 | Revised Opening Statement | Revised Opening Statement to reflect Milestone 5 |
| 2/27/18 | 6 | Revised Opening Statement | Revised Opening Statement to reflect Milestone 6 |
| 2/28/18 | 7 | Revised Opening Statement | Revised Opening Statement based on feedback |

**Executive Summary**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 9/5/17 | 1 | Creation of Executive Summary | Created the Executive Summary document |
| 9/8/17 | 2 | Revised Executive Summary | Revised Executive Summary |
| 10/4/17 | 2 | Revised Executive Summary | Revised Executive Summary to reflect Milestone 2 |
| 10/16/17 | 3 | Revised Executive Summary | Revised Executive Summary to reflect Milestone 3 |
| 12/5/17 | 4 | Revised Executive Summary | Revised Executive Summary to reflect Milestone 4 |
| 1/15/18 | 5 | Revised Executive Summary | Revised Executive Summary to reflect Milestone 5 |
| 2/6/18 | 6 | Revised Executive Summary | Revised Executive Summary to reflect feedback from Professor. |
| 2/8/18 | 7 | Revised Executive Summary | Revised Executive Summary to reflect feedback from Professor. |
| 2/27/18 | 8 | Revised Executive Summary | Revised Executive Summary to reflect Milestone 6 |
| 2/28/18 | 9 | Revised Executive Summary | Revised Executive Summary based on feedback |

**Implications for Client**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 9/5/17 | 1 | Creation of Implications for Client | Created Implications for Client document |
| 10/4/17 | 2 | Revised Implications for Client | Revised Implications for Client based on Professor feedback |
| 10/16/17 | 3 | Revised Implications for Client | Revised Implications for Client for Milestone 3 |
| 12/6/17 | 4 | Revised Implications for Client | Revised Implications for Client for Milestone 4 |
| 1/16/18 | 5 | Revised Implications for Client | Revised Implications for Client for Milestone 5 |
| 2/27/18 | 6 | Revised Implications for Client | Revised Implications for Client for Milestone 6 |
| 2/28/18 | 7 | Revised Implications for Client | Revised Implications for Client based on feedback |

**Items for Approval**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 9/6/17 | 1 | Creation of Items for Approval | Created Items for Approval document |
| 10/5/17 | 2 | Revised Items for Approval | Revised Items for Approval |
| 10/16/17 | 3 | Revised Items for Approval | Revised Items for Approval |
| 11/29/17 | 4 | Revised Items for Approval | Revised Items for Approval based on Milestone 4 |
| 2/4/18 | 5 | Revised Items for Approval | Revised Items for Approval based on Milestone 5 |
| 2/27/18 | 6 | Revised Items for Approval | Revised Items for Approval based on Milestone 6 |
| 2/28/18 | 6 | Revised Items for Approval | Revised Items for Approval based on feedback |

**Project Management Chart for Semester**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 2/2/18 | 1 | Creation of Project Management Chart for Semester | Created Project Management Chart for Semester |
| 2/4/18 | 2 | Revised Project Management Chart for Semester | Revised Project Management Chart for Semester based on feedback |
| 2/8/18 | 3 | Revised Project Management Chart for Semester | Finalized Project Management Chart for Milestone 5 based on feedback |
| 2/27/18 | 4 | Revised Project Management Chart for Semester | Revised Project Management Chart for current Milestone |

**Request for Proposal**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 2/22/18 | 1 | Creation of Request for Proposal | Created Request for Proposal |
| 2/24/18 | 2 | Revised Request for Proposal | Revised Request for Proposal based on feedback |
| 2/27/18 | 3 | Revised Request for Proposal | Revised Request for Proposal based on feedback |
| 2/28/18 | 4 | Revised Request for Proposal | Revised Request for Proposal based on feedback |

**Actual Architecture Design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 2/22/18 | 1 | Creation of Actual Architecture Design | Created Actual Architecture Design |
| 2/24/18 | 2 | Revised Actual Architecture Design | Revised Actual Architecture Design Based on feedback |
| 2/27/18 | 3 | Revised Actual Architecture Design | Revised Actual Architecture Design Based on feedback |

**Input/Output and Interface Design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 2/24/18 | 1 | Creation of Input/Output and Interface Design | Created Input/Output and Interface Design |
| 2/27/18 | 2 | Revised Input/Output and Interface Design | Revised Input/Output and Interface Design based on feedback |
| 2/28/18 | 3 | Revised Input/Output and Interface Design | Revised Input/Output and Interface Design based on feedback |
| 3/1/18 | 4 | Revised Input/Output and Interface Design | Revised Input/Output and Interface Design based on feedback |

**Comprehensive Systems Controls Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 2/24/18 | 1 | Creation of Comprehensive Systems Controls Plan | Created Comprehensive Systems Controls Plan |
| 2/27/18 | 2 | Revised Comprehensive Systems Controls Plan | Revised Comprehensive Systems Controls Plan based on feedback |
| 2/28/18 | 3 | Revised Comprehensive Systems Controls Plan | Revised Comprehensive Systems Controls Plan based on feedback |

**Roles and Responsibilities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 8/30/17 | 1 | Creation of Roles and Responsibilities Document | Creation of Roles and Responsibilities Document for Milestone 1. |
| 9/16/17 | 2 | Revised Roles and Responsibilities for Milestone 2 | Revised Roles and Responsibilities for Milestone 2 |
| 11/2/17 | 3 | Revised Roles and Responsibilities for Milestone 3 | Revised Roles and Responsibilities for Milestone 3 |
| 11/9/17 | 4 | Revised Roles and Responsibilities for Milestone 4 | Revised Roles and Responsibilities for Milestone 4 |
| 1/16/18 | 5 | Revised Roles and Responsibilities for Milestone 5 | Revised Roles and Responsibilities for Milestone 5 |
| 2/27/18 | 6 | Revised Roles and Responsibilities for Milestone 6 | Revised Roles and Responsibilities for Milestone 6 |

**Meeting Communications**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 9/6/17 | 1 | Creation of Meeting Communications | Created Meeting Communications document |
| 9/13/17 | 2 | Revised Meeting Communications | Revised Meeting Communications to show new meetings |
| 10/9/17 | 3 | Revised Meeting Communications | Revised Meeting Communications to show meetings since last revision |
| 10/26/17 | 4 | Revised Meeting Communications | Revised Meeting Communications to show meetings since last revision |
| 11/2/17 | 5 | Revised Meeting Communications | Revised Meeting Communications to show meetings since last revision |
| 11/30/17 | 6 | Revised Meeting Communications | Revised Meeting Communications to show meetings since last revision |
| 12/4/17 | 7 | Revised Meeting Communications | Revised Meeting Communications to show meetings since last revision |
| 12/7/17 | 8 | Revised Meeting Communications | Updated Meeting Communications to reflect separation by Milestone. |
| 2/5/18 | 9 | Revised Meeting Communications | Updated Meeting Communications to reflect new meetings |
| 2/27/18 | 10 | Revised Meeting Communications | Updated Meeting Communications to reflect new meetings |

**Miscellaneous**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version Name** | **Change** | **Comments** |
| 8/30/17 | 1 | Creation of GitHub Repository | Created the GitHub Repository and added members of group |
| 9/6/17 | 1 | Creation of Title Page | Created Title Page document |
| 9/10/17 | 2 | Revised Title Page | Added logo to Title Page |
| 9/11/17 | 2 | Revised Milestone 1 document | Addressed changes suggested by Professor Germonprez |
| 11/23/17 | 1 | Creation of presentation slides | Creation of presentation slides |