

Storage-X



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Milestone 7 Report

Milestone Manager: Thadeous Phipps

Project Manager: Paul Van Vliet



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Control Documents: Roles and Responsibilities Matrix

Name	Role	Responsibilities
Kyle Haston	The Project Manager is responsible for ensuring that the project is delivered on time and to the required quality standards.	Comprehensive System Controls Plan
Junfeng Ou	The Project Tracker ensures that members of the project are working in a timely and responsible manner.	Input/Output and Interface Design
Levi Price	The Project Producer focuses on making sure documents are reviewed before submission and submitted in a timely fashion.	Update Client Documents, Control Documents, Meeting Communications, PM Chart, ERD, and FRDD
Thadeous Phipps	The Project Communicator ensures necessary parts are completed by communicating with team members.	Computer Architecture Design



Control Documents: Change Log

Date	Version	Change Description	Team Member
02/11/2021	5.1	Condensed milestone report from last semester and added Project Management Gantt Chart	Kyle Haston
02/11/2021	5.2	Updated Table of Contents, added ERD and FRDD	Levi Price
02/12/2021	5.3	Updated Table of Contents, Control Documents, Client Documents, Project Documents, and Meeting Communications	Levi Price Junfeng Ou Kyle Haston Thadeous Phipps
02/13/2021	5.4	Updated ERD, FRDD, and Meeting Communications	Junfeng Ou
02/23/2021	6.1	Updated Table of Contents, Client Documents, and Control Documents	Levi Price
02/27/2021	6.2	Added Comprehensive System Controls Plan, and Disaster Recovery Plans	Kyle Haston
02/28/2021	6.3	Added User Interface screenshot and updated Meeting Communications	Levi Price
03/06/2021	6.4	Updated Comprehensive System Controls Plan and Executive Summary	Kyle Haston
03/06/2021	6.5	Added Computer Architecture Design	Thadeous Phipps
03/09/2021	6.6	Updated UI Design screenshots	Levi Price
03/10/2021	6.7	Updated Computer Architecture Design (Actual Architecture and RFP)	Thadeous Phipps

Date	Version	Change Description	Team Member
03/12/2021	6.8	Updated Computer Architecture Design and Comprehensive System Controls Plan	Thadeous Phipps Junfeng Ou Kyle Haston
03/12/2021	6.9	Updated Executive Summary, Table of Contents, and PM Chart	Levi Price



Client Documents: Opening Statement

Milestone 6 of the Storage X system has been completed. The systems development project continues to remain on time and budget.



Client Documents: Executive Summary

Milestone 6 report consists of the Control Documents, Project Documents, and Meeting Communications. The Control Documents contain the Roles and Responsibilities Matrix and the Change Log. These documents cover what the team members will be responsible for as well as what they will be working on during the current milestone. The Change Log notates any changes that have been made within this report. The Project Documents contain the Computer Architecture Design, the Comprehensive System Controls Plan, and the Input/Output and Interface Design. The Computer Architecture Design explains specific hardware and procurement processes as well as the actual architecture of DIY-Storage. The Request for Proposal (RFP) describes the technical and performance specifications for desktop hardware and software. It will provide an overview of the conditions that need to be met by the time of implementation on July 6, 2021. The Comprehensive System Controls Plan explains how we will handle various threats in order to maintain business continuity. The Disaster Recovery Plans section explains our Contention Plan, Contingency Plan, and Recovery Plan. The Contention Plan details what to do while a disaster occurs; the Contingency Plan details what to do while the system is unavailable; and the Recovery Plan details how the system is recovered back to being operational. The Input/Output and Interface Design is a mockup user interface (UI) design that we plan to implement in our information system. Lastly, we have our Meeting Communications

that contains each Milestone Meeting Minutes. These Meeting Minutes cover the times the team members met to discuss the status of the milestone.



Client Documents: Implications for Client

Milestone 6 implications for the client have been requiring consent for information needed to continue the progress with the development of the project. No weekly meetings have been set up with the client, but are available by appointment and emails are exchanged periodically. No work processes of the client will be affected by the changes in the current milestone. The client will not be required to learn any skills that are affected by the current milestone. This milestone is setting up the backbone for the client to effectively increase their productivity by streamlining their work processes into a more organized and automated approach. As a team we plan to develop and implement an effective information system for our client.



Client Documents: Items for Approval

Items for Approval: Access to information on DIY's data management.

Status: All the items have been approved by the client, Kirk Alloway.



Project Documents: Computer Architecture Design

Actual Architecture

The hardware the client will be using to access the full-stack web app is a single desktop located in their home office. This desktop will have access to the two desktops that are located at each facility operated by the client, as well as the web for access to the systems they will be interacting with such as the developed web app, HelloSign, QuickBooks, SquareSpace, and Google Analytics. The client's current procurement process is on a project-by-project basis, where they will acquire hardware and software as needed.

Request For Proposal

RFP Issue Date: March 6, 2021

Contact(s): Covid Consumers (Thadeous Phipps, Levi Price, Kyle Haston, Junfeng Ou)

Email: tphipps@unomaha.edu lprice@unomaha.edu khaston@unomaha.edu jou@unomaha.edu

Background

DIY-Storage is issuing a Request for Proposals (RFP) in hopes to receive proposals from qualified vendors to provide DESKTOP HARDWARE and SOFTWARE according to the specifications listed below.

DIY-Storage is a storage rental company owned and operated by Kirk Alloway. They will be employing a full-stack web app solution to run their two owned facilities. The web app solution on the frontend will be using React, Nextjs, and graphQL. On the backend it will use MongoDB and KeystoneJS, a headless content management system. This RFP document was created in response to needing new DESKTOP HARDWARE and SOFTWARE to implement the web app solution.

The schedule for the targeted delivery date for bids of DESKTOP HARDWARE and SOFTWARE is May 6, 2021. Covid Consumers will review the proposals submitted by vendors with the goal of entering a purchase agreement with a single vendor by June 6, 2021. The RFP describes the technical and performance specifications for DESKTOP HARDWARE and SOFTWARE. It will also provide an overview of the conditions that need to be met by the time of implementation on July 6, 2021.

General Agreements

The selected vendor will work directly with Covid Consumers in the design of DESKTOP HARDWARE and SOFTWARE to match the services of the facility it will be implemented in. Submission of an RFP does not commit DIY-Storage to award a purchase agreement or pay costs incurred by submission of the proposal. Any or all demonstration units sent in response to the RFP will become the property of DIY-Storage, unless a contractual relationship is formed between the vendor and DIY-Storage for the DESKTOP HARDWARE and SOFTWARE to be purchased.

Proposal Format and Requirements

Vendors who DIY-Storage believes to have the potential to fulfill the requested DESKTOP HARDWARE and SOFTWARE will receive a copy of the RFP, which will be up to the vendor to make and disperse copies. The vendor is encouraged to reach out to the point of contact Covid Consumers with any questions they have regarding the RFP so that a complete and comprehensive response can be given.

- Vendors will submit their proposal in PDF format.
- Vendor contact information, as well as a signature of the contact representative for the vendor.
- Information of vendor employees directly involved in the project.
- Financial history (2 years) to demonstrate the financial capacity to provide DESKTOP HARDWARE and SOFTWARE.

- Pricing for the proposed DESKTOP HARDWARE and SOFTWARE, which includes installation, delivery, warranties, training, etc. Upgrade equipment should be given additional pricing.

RFP Issue Date	March 6, 2021
Vendor Bids Due	May 6, 2021
Vendor Contract Awarded	June 6, 2021
System Implementation Date	July 6, 2021

Desktop Hardware Requirements

The requested hardware will consist of a single desktop machine that will handle the processes of interacting with the web-based services. The machine will need to handle a database that processes one new customer and generates two payment invoices every day, which consists of seven different product choices(unit sizes) . This includes an estimate of 350 records, with an average 45 characters per record. This will increase the database size by 3kb every year. Backups of the database will be saved onto the desktop machine. Installation of the DESKTOP HARDWARE should be coordinated with the vendor and Covid Consumers. DESKTOP HARDWARE warranty should be provided for forty-eight months, which will cover part failure or malfunction. Repairs will be done on site by the vendor, or a verified 3rd party repair provided by the vendor. The warranty will begin once the DESKTOP HARDWARE is under possession of DIY-Storage. The DESKTOP HARDWARE will be delivered by the delivery date on time and in orderly condition.

Quad-Core CPU, 8 Threads
8Gb-3200 MHz RAM
x64 Windows 10
1Tb HDD 7200 RPM

Software Requirements

The SOFTWARE must be compatible with Windows based systems to be able to interact with the current work environment. System must be stable, secure, accessible, and support the current business processes. Vendors must provide a SOFTWARE that will continue to have support for the foreseeable future to avoid becoming obsolete or unserviceable.

Service Requirements

As previously mentioned in the DESKTOP HARDWARE and SOFTWARE requirements: the DESKTOP HARDWARE will require a forty-eight month warranty which will cover part failure or malfunction. The repairs will be handled on site by the vendor, or by a verified 3rd party approved by the vendor. This warranty will begin once the hardware has been installed and come into possession of DIY-Storage. SOFTWARE training will be handled by DIY-Storage as it integrates into the system.

Bid Evaluation

Covid Consumers will review each proposal submitted before the deadline and validate the credentials of each vendor participating. Based on the proposed products based on the DESKTOP HARDWARE and SOFTWARE requirements, selection will be made. Pros and cons

of the submitted proposals will be determined during the evaluation process. Vendors who best meet the RFP's evaluation criteria will be negotiated with for competitive pricing, upon which a single vendor will be awarded the contract. The vendor will be expected to enter the contract within eight days of receiving the awarded contract.

Vendor Evaluation

The Vendor will meet the following qualifications to be considered for the RFP:

- Ability to meet the requirements of the RFP.
- Prove capable of delivering DESKTOP HARDWARE and SOFTWARE on time and within budget.
- Proven track record in DESKTOP HARDWARE and SOFTWARE delivery and client satisfaction.

Conclusion

As stated, upon receiving an award from DIY-Storage, the vendor will be expected to enter the contract within eight days of receiving the award. All bids will be due by May 6, 2021. Any questions regarding the RFP please direct to Covid Consumers (tphipps@unomaha.edu lprice@unomaha.edu khashton@unomaha.edu jou@unomaha.edu).



Project Documents: Comprehensive System Controls Plan

Introduction

This control plan will explain how we will display business continuity even when there is a disaster or threats. The threats can be simple mistakes such as data that is entered correctly however another example could be theft of hardware that is needed to run the system.

Purpose

The purpose of our control plan is to be able to maintain normal business operations. We will also discuss our disaster recovery plans so we can be best prepared for different kinds of disasters that may occur.

Data Entry Controls

Input Threat - Invalid / Incorrect data

Associated Data Entry Control - GraphQL has a built-in type checking system to validate user data before it gets sent to the backend. We will have required fields for forms and utilize a data retrieval tool to look up existing data using selection boxes. We will also have Typescript on the backend to make sure the data received from the frontend is correct.

Input Threat - Accidental Data modification

Associated Data Entry Control - Once the schema is defined on the backend, GraphQL playground will have a list of instructions on how to perform the CRUD operations. This includes what conditions are required to pass in for data mutation and data query.

Output Controls

Output Threat - Private Documents get left on a Printer / public area

Associated output control - We will store Confidential Documents in a secure safe .

Output Threat - Terminal Screen left open

Associated output control - We will ensure the office area is locked when not occupied and any computer screens are turned off before leaving the office.

Database Controls

Database Threat - Loss of data

Associated database control - We will retain a local copy and implement a process to do so. All information will be saved to the MongoDB Cloud. In the event of their cloud going down, we will have an excel spreadsheet as backup with all current customers on it and stored away in a secured hard-drive.

Access Controls

Access Threat - Unintentional access / Invalid Access Permission

Associated access control - Create a permission access list on the backend to allow employees with access -password control

Access Threat - Weak Password

Associated access control - We will implement a password policy with at least 7 characters, a number, and a special character.

Access Threat - Internal Modification / Access to the database without owner's permission

Associated assess control - Eliminate insider attack by restricting access to the backend to all employees within the company

Access Threat - Data Access

Associated Data Entry Control - Database can be accessed in one of three ways. Either the user log in onto the backend through KeystoneJS and modify the data as an admin, use MongoCompass to directly modify any existing data, or Log onto MongoDB website directly to modify the data. All three accesses will require user credentials to be verified.

Software Controls

Software Threat - Form security issue

Associated software control - We will implement our form control with security in mind to ensure the user's credentials don't end up in the browser history.

Software Threat - Form bots

Associated software control - We will implement either reCaptcha or Honeypot to validate real users to avoid bots .

Software Threat- Malware

Associated software control- We will use a malware detection such as MalwareBytes to protect against malware.

Hardware Controls

Hardware Threat - Power Outage

Associated Hardware Control - We will have an alternate power supply located in a secure area.

Hardware Threat - Hardware is dirty /dusty and therefore running slow .

Associated Hardware Control - We will clean the hardware every 2 months with electronic safe dusters to ensure it continues to operate normally.

Hardware Threat- Theft

Associated Hardware Control - Our hardware will be locked in a secure location.

Disaster Recovery Section

Contention Plan:

- Fire: The most important part is making sure people are safe so we will have a fire escape plan in place to get them out quickly. Our security camera will notify the owner and the fire department will be contacted.
- Flood: We will make sure any people are safe first by having a rescue plan in place. Our clients have looked into potential solutions to protect customer's belongings in the event of flood. This includes weather strips around garage doors and installation of flood vents and having large sand bags in storage ready for use.

Contingency Plan:

- We will have paper forms available and ready for use if the system is unavailable .
- System Malfunction: Our client can contact one of the developers on this team in the event of system malfunctions. We will get the server back on running as fast as humanly possible.
- System Goes Offline: This can be caused by many different things. One of the most popular attacks on web servers is DDoS by bots spamming inputs on our contact forms to overload the request. In that case, our client can contact us and we will implement some system in place to get the website back on as soon as possible.
- Hosting Issue: Our project will most likely be hosted on Netlify. If cloud hosting is ever an issue, we will migrate the project to another hosting platform such as Vercel or Google Firebase.

Recovery Plan: Database is established back online

- All our data will be saved on MongoDB cloud. In the event of their server going down in the future, the owner will save his customer's information onto an excel spreadsheet and keep it on his local hard-drive.
- We will have a local backup that we can access as needed.
- MongoDB data can be accessed with SQL Server Management Studio, we can utilize SSMS to save existing data to localhost.



Project Documents: Input/Output and Interface Design

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Easy Access

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Share Unit

Our easy access system allow our clients to share unit with multiple users while tracking access separately.

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10 X 20	--- \$110 / MO
10 X 30	--- \$165 / MO
10 X 40	--- \$204 / MO

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WAIVED APPLICATION FEE FOR A COMMITMENT OF 6 MO. OR MORE.	
PREPAY DISCOUNTS OF 3% AND 6% (6MO./2MO.)	
FIRST RESPONDER AND ACTIVE DUTY MILITARY DISCOUNTS OF 5%.	

Frequently Asked Questions

- Lorem Ipsum

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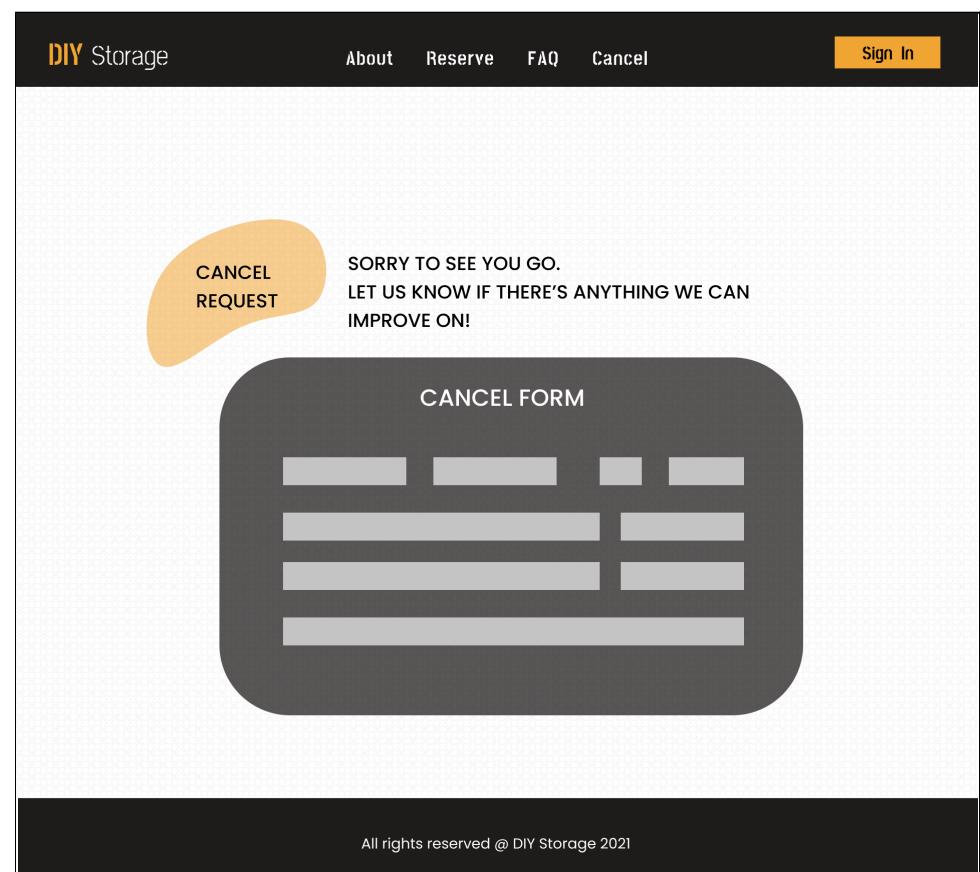
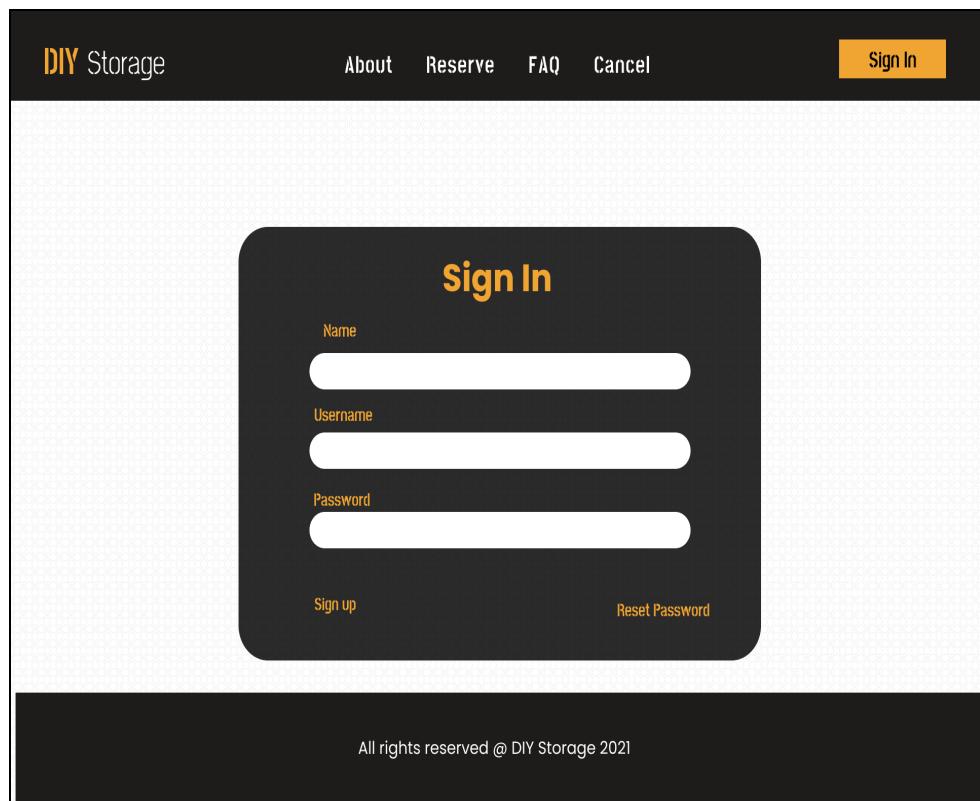
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Meeting Communications

Communication Management Plan				
Who	What	Why	When	Where
Team Members	Ongoing Emails	Inform team members about current status of the project	As needed	UNO Email
Team Members	Ongoing Messages	Discuss with team members about current status of the project	As needed	Discord
Team Members and Client	Stakeholder Meeting	Provide milestone updates to the client	By appointment	Zoom

Meeting Minutes: Milestone 5

Date: 02/12/2021

Time: 3 PM

Location: Zoom

Attendance: Project Manager, Levi Price, Junfeng Ou, Kyle Haston, and Thadeous Phipps

Notes: In the meeting, we discussed some of the flaws in our Entity Relationship Diagram and the Full Relational Database Design with the Project Manager. We also obtained some general advice on how we should improve our model from the Project Manager. Lastly, we discussed the general format of the milestone document and the structure we need to follow in each section.

Meeting Minutes: Milestone 5**Date:** 02/12/2021**Time:** 8 PM**Location:** Discord**Attendance:** Levi Price, Junfeng Ou, Kyle Haston, and Thadeous Phipps

Notes: In the meeting, we discussed each team member's role & responsibilities in the milestone. Levi is updating the Control Documents, Client Documents, Project Documents, and Meeting Communications. Kyle started to create the Project Management Chart with Office Timeline, but Levi will be converting our agenda to Microsoft Project. Jun is creating the Entity Relationship Diagram with Lucidchart and the Full Relational Database Design with Microsoft Access. Thadeous is responsible for reviewing the milestone and verifying all parts have been completed.

Meeting Minutes: Milestone 6**Date:** 02/28/2021**Time:** 12 PM**Location:** Zoom**Attendance:** Project Manager, Kyle Haston, Junfeng Ou, and Levi Price

Notes: In the meeting, we discussed our progress on the Milestone 6 report. Noting that the Executive Summary could use better client friendly details about the project documents. The need to get started on the Computer Architecture Design & Proposal document. The Comprehensive System Controls Plan needs to be updated and could have better descriptions. The User Interface is off to a good start.

Meeting Minutes: Milestone 6**Date:** 03/12/2021**Time:** 1 PM**Location:** Zoom**Attendance:** Project Manager, Kyle Haston, and Thadeous Phipps

Notes: In the meeting, we discussed our progress on the Milestone 6 report before resubmission. The Project Manager mainly recommended changes towards our RFP and Control Plan.