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**Project Name**

Final Project Design Document

Prepared by: Michael Fesser

Date Submitted: May 25, 2014

# Document Change Control

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| --- | --- | --- |
| **Date** | **Authors** | **Summary of Changes** |
| June 4, 2014 | Michael Fesser | Updates |
| June 6, 2014 | BJ MacLean | Comments |
| June 12, 2014 | Michael Fesser | Updates |
| June 13, 2014 | Michael Fesser | Updates |
| June 20, 2014 | Michael Fesser | Updates |
| June 26, 2014 | Michael Fesser | Final Version |

# Document Sign-Off

The following people have reviewed and approved the entire content of this proposal document.

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| **Position** | **Name** | **Signature** | **Date** |
| Instructor | BJ MacLean |  | June 11, 2014 |
| Student | Michael Fesser |  | June 11, 2014 |
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# 1.1 Project Team members

Michael Fesser

1.2 Project Description

The purpose of this project is to create a booking system for storage units. The program will provide various functionality related to booking, releasing, and tracking of any number of storage unit of any size.

This product is an online reservation system with specific functionality related to storage units.

Currently it is possible to reserve storage units online, but there are many smaller companies that would benefit from this technology, that might not have to capital to pay a large company to develop this technology for them.

# Primary Functions

I am a bit concerned about the size of the project. A review may be good now that you have completed your thoughts up to this point. Maybe you are making good headway on the project and if so it is great. I just do not want you to be overwhelmed with the scope of the project. Let’s discuss Monday and see where you are with it at that point. Great work.

* + 1. Allow the creation of accounts. Allow a single built in account to add other account types including customers.
    2. Add login for the application.
    3. Allow customers to reserve a storage unit.
    4. Allow the customers to extend a storage unit.
    5. Allow the customers to release the storage unit. Add restrictions to the storage unit is in use.
    6. Add a view to see all units and allow reservation functions. Display the storage units by size, availability, and date in that order.
    7. Add a user view that shows the customers to view their storage units. Requirement 1.3.4 and 1.3.5 would be available from this view. Use same sort order in requirement 1.3.7
    8. Allow users the search for storage units by unit availability, size, and reservation end date.
    9. All user to update their profile.
    10. Hide the details from the users regarding other clients. This is intended to hide any unnecessary information about a booking form other users.

Only showing a user’s own booking information. Good.

* + 1. Add a web service that allows a user to log in and see which units he has stored stuff in.
    2. Add an administrator view. From this view the administrator will be able to search for customers by email, username and last name. Also they will be able to search for storage units by id, customer username, and customer last name.
    3. Allow the administrators to view all customers. From this or the results view for customers in requirement 1.3.12, they will be able to update or remove the customer.
    4. Allow the administrators to view all storage units. From this or the results view for storage units in requirement 1.3.12, they will be able to release units if reserved. This view should be sorted by storage unit id.
    5. Allow administrators to add new customers.
    6. Allow administrators to add new storage units.
    7. Add a logout for all users.
    8. Allow anyone visiting the site who is not logged in to see the storage units but not interact with them

# 1.4 Secondary Functions

1.4.1 Future Booking

Add functionality to book in the future.

* + 1. Create a calendar that will show the storage units available on that specific day

This would be a basic calendar that when clicked would show all the storage units available that day. It would also give information as to when the unit was available. Unit booking would be available from this view.

* + 1. Check for any booking overlap

Related to the above functionality check to make sure a unit is not booked by two different users at the same time.

# 2.1 Class Design

This will outline the main classes used for business interaction. All classes under forms, actions, and test are excluded.

Package business

* AddCustomer (customer and customer\_login)
* AddStorageUnit (storage\_unit)
* AdminSearchStorageUnit
* CustomerSeachStorageUnit
* DeleteCustomer (customer and customer\_login)
* LoadCustomer (customer)
* LoadCustomers (customer)
* LoadStorageUnits (storage\_unit)
* Login (customer\_login)
* ReleaseStorageUnit (storage\_unit and customer\_storage\_unit)
* ReserveStorageUnit (storage\_unit and customer\_storage\_unit)
* SearchCustomers
* UpdateCustomer (customer and customer\_login)
* UpdateStorageUnit (storage\_unit and customer\_storage\_unit)

Package util

* DatabaseConnection
* DbUtils
* Logout
* SortStorageUnits
* Util
* WriteToFile

Package webServices\business

* UnitsInUseCheck

Would be good to have these classes map to the database tables.

# 2.2 Interface Design

Provide a mockup of the screens that you expect to use in your project. Also provide a brief description (paragraph of two) describing each of the screens to be used in your program.

### 2.2.1 Main Menu

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Main Menu | |
| (All visitors)  Login  Signup  View Storage Units  (Customers)  View my storage Units  View All Storage Units  Search Storage Units  Update Profile  Logout  (Administrators)  Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout |  |
| Footer | |

Notes:

* This will be the initial starting page for the website. If time permits it will be formatted with pictures and such to improve the overall feel.

### 2.2.2 Signup

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Sign Up | |
| Login  Signup  View Storage Units | Username  Password  Re-enter Password  Email  Re-enter Email  First Name  Middle Initial  Last Name  Address  City  Province  Postal Code  Phone Number  Submit  Reset |
| Footer | |

Notes:

* This is the main signup page.
* This page and the related classes will do all the validation.
* New Customer or administrators will use the same page to create customers.
* Employee creation is not in the scope of the project and currently will be done directly in the database.

### 2.2.3 Login

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Login | |
| Login  Signup  View Storage Units | Username Password Submit |
| Footer | |

Notes:

* There will be validation and session control.

### 2.2.4 All Storage Unit View

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  All Storage Unit View | |
| Login  Signup  View Storage Units | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From |
| Footer | |

Notes:

* This is the external storage unit view. It is merely a list and has no other functionality.

### 2.2.5 My Storage Units

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  My Storage Units | |
| View my storage Units  View All Storage Units  Search Storage Units  Update Profile  Logout | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From  Extend Storage Units Release Storage Toggle Units Status |
| Footer | |

Notes:

* This is the main user page.
* This displays all the storage units the client currently has.
* Release, extend, and toggle status is are the main functions on this view.
* The end date for reservation will be set with a jquery date picker.
* Update profile – was this in the requirements?
* This will display all storage units

### 2.2.6 All Storage Unit View (customer)

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  All Storage Unit View | |
| View my storage Units  View All Storage Units  Search Storage Units  Update Profile  Logout | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From  End date reservation field Reserve Unit |
| Footer | |

Notes:

* This view will allow storage unit reservations.

### 2.2.7 Storage Unit Search

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Storage Unit Search | |
| View my storage Units  View All Storage Units  Search Storage Units  Update Profile  Logout | Storage Unit Availability Storage Unit Dimensions Reservation End Date Reset Search |
| Footer | |

Notes:

* This view will allow for searching of storage units
* Customers will be able to search by storage unit availability, dimensions, and reservation end date.
* If no criteria are selected it will return a full listing.

### 2.2.8 Storage Unit Search Results (customer)

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Search Results | |
| View my storage Units  View All Storage Units  Search Storage Units  Update Profile  Logout | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From  End date reservation field Reserve Unit |
| Footer | |

Notes:

* This view is the result of a storage unit search.
* It will display results based on unit availability, dimensions, and reservation end date.
* If no criteria are selected it will return a full listing.
* Storage unit reservations are available from this view.

### 2.2.9 Update Profile

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Update Profile | |
| View my storage Units  View All Storage Units  Search Storage Units  Update Profile  Logout | Customer ID  Username  Password  Re-enter Password  Email  Re-enter Email  First Name  Middle Initial  Last Name  Address  City  Province  Postal Code  Phone Number  Submit  Reset |
| Footer | |

Notes:

* This is nearly identical to the signup view.
* Customer cannot change their id nor username.

### 2.2.10 Administrator Main (search)

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Search | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Customer Search  Email Username Last Name Search  Storage Unit Search  Unit ID Customer ID Last Name Search |
| Footer | |

Notes:

* This is the main administrator view
* The administrator can search for customers or storage units by a single criteria.
* Customers can be searched for by their email, username, or last name.
* Storage Units can be searched for by their unit id, customer id, or customer last name.
* In both cases if no criteria are selected, a full listing will be returned.

### 2.2.11 Customer Search Results

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Customer Search Results | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Customer ID Customer Last Name Customer First Name Customer Email  Update Customer Delete Customer |
| Footer | |

Notes:

* This view is the result of a customer search.
* It will display results based on customer email, username, or last name.
* If no criteria are selected it will return a full listing.
* The administrator will be able to update and delete customers.

### 2.2.12 Storage Unit Search Results

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Storage Unit Search Results | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From  Release Unit |
| Footer | |

Notes:

* This view is the result of a storage unit search.
* It will display results based on unit id, customer id, or customer last name.
* If no criteria are selected it will return a full listing.
* The administrator will be able to release storage units form this view

### 2.2.13 Update Customer

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Update Customer | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Customer ID  Username  Password  Re-enter Password  Email  Re-enter Email  First Name  Middle Initial  Last Name  Address  City  Province  Postal Code  Phone Number  Submit  Reset |
| Footer | |

Notes:

* This is nearly identical to the signup view.
* Administrator cannot change the id.

### 2.2.14 View All Customers

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  View All Customers | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From  Reserve Unit |
| Footer | |

Notes:

* This view is used both when clicking the “View All Customers” button.
* Updating and deleting customers is available from this view.

### 2.2.15 Add Customer

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Add Customer | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Username  Password  Re-enter Password  Email  Re-enter Email  First Name  Middle Initial  Last Name  Address  City  Province  Postal Code  Phone Number  Submit  Reset |
| Footer | |

Notes:

* This is identical to the main signup page.
* This page and the related classes will do all the validation.
* New Customer or administrators will use the same page to create customers.
* Employee creation is not in the scope of the project and currently will be done directly in the database.

### 2.2.16 All Storage Unit View (customer)

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  All Storage Unit View | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Unit ID Unit Type Unit Dimensions Unit Availability Date Reserved To Date Reserved From  Release Unit |
| Footer | |

Notes:

* This is basically a no criteria administrator storage unit search.
* The Administrator will be able to release storage units from this view.

### 2.2.17 Add Storage Unit

|  |  |
| --- | --- |
| Header | |
| Storage Units In A Rush  Add Storage Unit | |
| Search  View All Customers  Add Customer  View All Storage Units  Add Storage Unit  Logout | Unit Type  Unit Dimensions  Unit Availability  Reset Add Storage Unit |
| Footer | |

Notes:

* This view will allow an administrator to add a storage unit.
* The unit availability is locked,
* The other fields have no validation.

# 3.0 Changes

1. Moved future bookings to secondary due to complexity.

2. Overlap check moved to secondary.

3. Calendar moved to secondary as its intended function was future bookings. Calendar view might still be used as a view for days the units are available but only allow booking on the current date.

4. All previous secondary functions scrapped.

5. Universal success moved to action messages.

6. Massive overhaul of the whole document.