Software Requirements

Specification

For

Lackmann Mobile Application

For Android Devices

**Version 1.3**

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# Revision History

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| --- | --- | --- |
| **Version** | **Date** | **Reason For Changes** |
| **1.0** | **1/31/2013** | Initial Draft |
| **1.1** | **2/4/2013** | Completed edits of initial draft and added missing sections |
| **1.2** | **2/12/2013** | Added design requirements for the main screen to User Interfaces |

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# 1. Introduction

## 1.1 Purpose

The Lackmann app is a multi-purpose mobile application for Android devices that allows the community of St. John Fisher College to easily view and keep track of information, as well as interact with Lackmann Dining Services.

## 1.2 Document Conventions

Under the system features section, it should be assumed that the features are listed based on priority. Features listed at the beginning of the section are considered high priorities, while features listed at the end are considered low priorities.

## 1.3 Intended Audience and Reading Suggestions

This document is intended for those in SJFC’s CSCI 480-01 2013 Spring semester’s class, and the managers of Lackmann Dining Services. It is suggested that the managers of Lackmann Dining Services proceed with reading the System Features section first, as that is the section that describes all the features the app provides. It is suggested for other readers to proceed with reading the SRS in order, as it provides an easier understanding of the technical aspect of the app.

## 1.4 Project Scope

This document covers the requirements for release 1.1 of the Lackmann Mobile application. This does not include requirements for the Lackmann Web Portal which is covered in its own System Requirements Specification document.

## 1.5 References

* System Requirements Specification for Lackmann Web Portal

# 2. Overall Description

## 2.1 Product Prospective

Lackmann Mobile is an Android based application that allows users to have access to dining information at St. John Fisher College. It is a mobile application at St. John Fisher College to provide users with up-to-date dining information. The application is the first attempt in giving dining service providers the ability to update students on what is being offered on campus.

## 2.2 Product Features

A summary of application features are as follows:

* ***Dynamic weekly menus***

Allows user to view a weekly menu of main items being offered at each dining location on campus.

* ***Twitter/Facebook news feed***

Allows users to see the latest status update and/or Tweet from Lackmann. Also, allows users to be able to directly link to either one of Lackmann’s social networking pages and interact with them.

* ***Promotions/Advertisement calendar***

Users will be able to see upcoming events and other promotions occurring on campus.

* ***Dining hours page***

This will display up-to-date hours of operation for each dining location on campus.

* ***Nutrition facts page***

This will list the nutritional information of the meals being offered on campus. This information may include serving size, calories, total fat, total carbohydrates and protein.

* ***Bag lunch order form link***

A link for users to the bag lunch order form from Lackmann’s web site.

* ***Meal plan information/cost page***

This will list the different meal plan options available via a link to the registrar’s and bursar’s page on the St. John Fisher website. Both of these pages include details of each plan and up-to-date costs per semester.

* ***Meet the management/Lackmann contact information***

This will list the managers of Lackmann Culinary Services at St. John Fisher College and their contact information. This will include their title, phone number, and email.

* ***Meal calculator***

Dining utility designed for users to be able to monitor their meal plan information including meal swipes, flex dollars and guest passes.

## 2.3 User Classes and Characteristics

This application is intended for use by two user classes:

The first user class of this application is students/faculty at St. John Fisher College. Basic understanding of mobile applications is required. Students/Faculty will use the application to be able to quickly find information which can aid them in making a dining decision. Students also will be able to monitor their meal usage to ensure they are getting the most out of their meal plan.

The second user class is Lackmann employees who will be able to change/edit weekly dining information that will be provided to students. Understanding of different file formats and uploading is required. Lackmann employees will be using the web portal to upload up-to-date files which will ensure the accuracy of weekly menus, hours of operation, nutritional facts, and upcoming promotions/events.

## 2.4 Operating Environment

The Lackmann Mobile application will operate on smartphones running an Android operating system. The smartphone must be running on Android 2.2 (API level 8) or later.

The server hosting the Lackmann web portal is the Monroe server on the Academia domain at St. John Fisher College. It is running Ubuntu 11.04 with Apache 2.0 web service. The URL of the web portal is (<http://monroe.sjfc.edu/lackmann/>).

## 2.5 Design and Implementation Constraints

Lackmann staff is responsible for updating the appropriate data files to ensure the accuracy of dining information being presented in the application. These files include dining menus, nutritional information, dining hours and event promotions.

Data files must be saved in the correct formats.

Data file templates cannot be changed.

Once the application and web portal are created and fully functional, maintaining the application will be the responsibility of Lackmann employees.

## 2.6 User Documentation

Instructions for administrators who will be uploading data files will be available on the web portal. It will include the appropriate file formats necessary for each upload.

We will not provide instructions for the Android application.

## 2.7 Assumptions and Dependencies

Lackmann employees will upload all appropriate data files in the correct format to the web portal. This includes uploading files which contain the correct dining hours, nutritional information, promotional events and weekly menu at the start of every week to ensure users will have access to accurate dining information. Keeping information up-to-date for this application is the sole responsibility of the Lackmann employees.

Access to dining information and social networking feed is dependent on the user having an Internet connection. It can either be through WiFi or the user’s 3G data plan. If the user is connected through their 3G data plan, they will be notified that the application will be using data. If the user has no Internet connection, they will not be able view this information.

Access to dining information is dependent on the server hosting the data files to be functional. If the server is down, users will not be able to view dining information.

# 3. System Features

## 3.1 Weekly Dining Menus

### 3.1.1 Description and Priority

This feature of the application will be a displayable menu for each dining location at St. John Fisher College. The five locations include:

* Ward/Haffey Dining Hall
* Murphy Dining Hall
* Cyber Café
* Cardinal Café
* 50’s Fishbowl

Once the user selects their desired location, they will then be able to view the main course being offered on each day of the current week. This function has a high priority.

### 3.1.2 Stimulus/Response Sequences

Once the user selects the dining menus option from the main menu, they will then be directed to a location selection page that will list the five dining locations on campus. Once the user selects a location, they will then be brought to the menu page which will list the main courses of the location for the entire week. If the user decides to change the menu they are viewing, they simply can return to the previous page.

### 3.1.3 Functional Requirements

REQ-1: The application is installed on a smartphone operating on Android OS 2.2 or greater.

REQ-2: User is connected to the Internet. This allows the user to pull the weekly menu that will be displayed when they select a location. If the user does not have an Internet connection, an error message will be displayed to inform users that an Internet connection is required.

REQ-3: A Lackmann employee has provided/uploaded an up-to-date spreadsheet containing the correct menu for the week. If the menu is out of date, users will be able to see that based on the dates seen in the menus. If there is no menu uploaded at all or are in an incorrect format, a message will be displayed to the users notifying them that weekly menus are unavailable.

## 3.2 Social Media News Feed

### 3.2.1 Description and Priority

This feature will provide users with the ability to view the most recent update by Lackmann through both their Facebook and Twitter account. Users will also have the ability to click on either one of these updates and be directed to Lackmann’s Facebook or Twitter page to be able to message/tweet them. This function has a high priority.

### 3.2.2 Stimulus/Response Sequences

The social media news feed will be located on the main menu. The user will have the ability to view updates by both sites. If the user clicks on either one of the updates or the highlighted Lackmann user names, they will then be directed to the respective social networking site. If the user has the Facebook and/or Twitter application downloaded on their phone, they will have the option to use their application. Once they arrive at the site, they will immediately have the opportunity to send a message/tweet to Lackmann.

### 3.2.3 Functional Requirements

REQ-1: The application is installed on a smartphone operating on Android OS 2.2 or greater.

REQ-2: User is connected to the Internet. This allows the application to pull the most recent status update from each social networking site. If the user does not have an Internet connection, an error message will be displayed instead notifying the user that an Internet connection is required.

## 3.3 Promotions/Advertisement Page

### 3.3.1 Description and Priority

This will be a page that will show up upon the loading of the applications. The page will show a desired event that Lackmann would like to have advertised. The page to be displayed will be uploaded (or pulled) in a similar way that the menus are. The page will be showed for a short time after the Lackmann logo on startup and then will be able to be accessed through a button that will be placed on the main menu of the application. This function has a high priority.

### 3.3.2 Stimulus/Response Sequences

Upon opening the applications, if there is a promotion or advertisement then it will be displayed after the logo during the splash screen. After the splash screen the user will be able to click a button (minimized version of the advertisement) in order for the user to look at the promotion page for as long as they please. This addresses the problem that users may not be able to see the promotion long enough in order to read it.

### 3.3.3 Functional Requirements

REQ-1: The application is installed on a smartphone operating on Android OS 2.2 or greater.

REQ-2: User is connected to the Internet. This allows the user to pull the available promotion page to be displayed. If user does not have Internet access then there will be a message stating the promotion cannot be displayed until there is Internet access.

REQ-3: A Lackmann employee has provided/uploaded an advertisement/promotion page. If this is not provided, a default image provided by the administrator will be show.

## 3.4 Hours and Location

### 3.4.1 Description and Priority

This page will display the Lackmann locations around campus and their hours of operations. The locations include:

* Ward/Haffey Dining Hall
* Murphy Dining Hall
* Cyber Café
* Cardinal Café
* 50’s Fishbowl
* Pioch Café

This function has a medium priority.

### 3.4.2 Stimulus/Response Sequences

This page will be accessible from the main menu of the application. The user will click a button that will bring them to a page displaying the locations and their hours of operation.

### 3.4.3 Functional Requirements

REQ-1: User is connected to the Internet. This allows the user to pull the available information for the hours. If user does not have Internet access then there will be a message stating the hours may not be accurate due to no internet access.

REQ-2: A Lackmann employee has uploaded hours through a web portal. The hours may be uploaded once, or many times. The application will look at the most recent upload in order to get the correct hours according to Lackmann.

## 3.5 Nutritional Facts

### 3.5.1 Description and Priority

This feature allows the user to view nutritional facts on a particular food item. The information is saved on an Excel spreadsheet, and uploaded onto a web portal that will be stored on a designated server. Some of the information that will be associated with each food item will include portion, calories, total fat, cholesterol, etc. This feature has a low priority.

### 3.5.2 Stimulus/Response Sequences

If a user selects a food item listed from a particular menu, they will be directed to another page that will list a variety of information for that food. Once the user is finished viewing the page, they can then return to the menu that they last viewed.

### 3.5.3 Functional Requirements

REQ-1: The current nutritional facts spreadsheet is correctly formatted and successfully uploaded onto a web portal. The data is then stored on the Monroe server. If the spreadsheet is not formatted correctly, the web portal will respond with an error message.

REQ-2: The user is connected to the Internet through either a Wi-Fi or data plan connection. If there is no connection, an error message will be shown stating that the requested information cannot be displayed until there is a connection.

## 3.6 Meal Plan Information

### 3.6.1 Description and Priority

This feature allows the user to view current information on each of the different meal plans Lackmann provides, as well as the cost of each meal plan. If the user wants to learn more about the number of meals each plan provides, they will be redirected to SJFC’s ResLife’s Meal Plans webpage (<http://www.sjfc.edu/student-life/reslife/housing/meal-plans.dot>). If the user wants to learn more about how much each plan costs, they will be redirected to SJFC’s Bursar’s Undergraduate Tuition & Fees webpage (<http://www.sjfc.edu/campus-services/bursar/undergrad-costs.dot>). This feature has a low priority.

### 3.6.2 Stimulus/Response Sequences

Once the user selects the option to view the meal plan information, they will be directed to a selection page that will ask if the user wants to view the cost or information on a particular meal plan. Once the user selects an option, they will be directed to the appropriate website.

### 3.6.3 Functional Requirements

REQ-1: The user is connected to the Internet through either a Wi-Fi or data plan connection. If there is no connection, an error message will be shown stating that the requested information cannot be displayed until there is a connection.

## 3.7 Bag Lunch Order Form Link

### 3.7.1 Description and Priority

This feature allows the user to navigate from the Lackmann Mobile application to the Lackmann website where they will be able to use their mobile phone’s built-in web browser to pre-order a bag lunch seen here:<http://www.sjfc.edu/student-life/dining/bag-lunch.dot> This feature is a low priority.

### 3.7.2 Stimulus/Response Sequences

* User clicks “Bag Lunch” link
  + App opens up a web browser going to Lackmann’s “Bag Lunch” section of their webpage.
* User navigates the webpage using their built-in web browser on their mobile device.

### 3.7.3 Functional Requirements

REQ-1: The user must be connected to the Internet on their Android mobile device.

REQ-2: The user must have a web browser installed on their Android mobile device

## 3.8 Meet the Management/Lackmann Contact Information Page

### 3.8.1 Description and Priority

This feature allows the user to navigate to a page on the Lackmann Mobile application where they can find both general contact information for Lackmann Dining Services as well as contact information for some of the Lackmann staff. This information includes their names, email addresses, office phone numbers, and in some cases cell phone numbers. All of this information will be clickable and will open the appropriate application in order to contact that member of Lackmann. For example, if a phone number is clicked then the phone application will launch with that phone number pre-populated in the number field. If an email address is clicked it will open the default email client application on the mobile device with the email address pre-populated in the “To:” field. This feature is a low priority.

### 3.8.2 Stimulus/Response Sequences

* User clicks “Lackmann Contact Info” link
  + App navigates to contact page.
* User clicks the either the phone number or email hyperlink of their choice
  + Appropriate application is launched with desired information pre-populated.

### 3.8.3 Functional Requirements

REQ-1: The user must be connected to the Internet on their Android mobile device.

REQ-2: The user must have an email client installed on their Android mobile device.

REQ-3: The user’s Android mobile device must have phone service in order to make phone calls.

## 3.9 Meal Calculator

### 3.9.1 Description and Priority

This feature allows the user to keep track of their meal swipes, flex dollars, and guest passes throughout the semester. Upon the first launch of the meal calculator feature, the user will be prompted to enter in their current meal plan information; this information can be obtained at any Lackmann point of sale location. The user then enters in that information, saves it, and is able to update it anytime they use a meal swipe, flex dollars, or guest passes. If the user goes an extended period of time without updating their information, they will be able to edit, and resave the new information at any time to keep the information current. This feature is a low priority.

### 3.9.2 Stimulus/Response Sequences

* User clicks “Meal Calculator” link
  + App navigates to meal calculator page where they are initially asked to enter their meal plan information, they click “Submit”, then are taken to a confirmation page where they can either confirm the information is correct or they can navigate back to the edit page to edit their information.
  + User clicks “Edit” and is brought to the edit page where they can enter in the most current information.
  + User clicks “Cancel” and is brought back to the main page.

### 3.9.3 Functional Requirements

REQ-1: The application is installed on a smart phone running the Android operating system.

REQ-2: The user must have an Android device with 500 kB internal storage available.

# 4. External Interface Requirements

## 4.1 User Interfaces

The interfaces the users will encounter will be those on the applications itself. Lackmann employees will have a web portal interface to interact with. All pages of the application will follow a consistent theme and clear structure. The occurrence of errors will be minimized through the use of counting buttons, text boxes and scroll down in order to reduce the amount of text input from user. Java will be used to provide a Data Check before a user submits changes to their balance. The menus and nutrition pages will have a scrolling ability so that the user can easily navigate throughout the pages without having to input any information. Any error that occurs will have a separate alert box notifying the user of their error in their attempt to input information. If a user does not have access to the Internet, either thru wireless Internet connection or 3G, the application will still allow them to use the meal calculator and view Lackmann contact information. They will be able to access the menu and nutrition pages but the information may not be up to date and the user will be alerted of this through a pop up when they enter the application. The home screen will have a Twitter feed, Facebook feed, advertisement/promotions button, calculation button, menus button, and location/hours button, meet the managers button, prices and meal plans button, and a nutrition button. Upon first attempt at using the meal calculator, the user will be brought to a first time use screen where they will be able to enter in their actual balance. The user can find this information out through any cash register on campus. After the first attempt, the user will be able to adjust their balance based on what they have used. The menus, nutrition, and advertisement/promotions pages will pull information from the Monroe server on campus and will allow the user to view this information. The location/hours page will have general information about Lackmann locations and hours for these locations. The meet the managers button will allow the user to view the managers of Lackmann as well as view their contact information.

The home screen will be a LinearLayout where the Lackmann logo will be at the top of the screen, centered, followed by the buttons used to select a desired system feature. The buttons will be presented as a list, where the most important system features will be shown at the top. The system features that will be shown are:

* Weekly Dining Menus
* Hours and Location
* Nutritional Facts
* Meal Plan Information
* Bag Lunch Order Form Link
* Meet the Management/Lackmann Contact Information Page
* Meal Calculator

The width of these buttons will go from the edge of the left side of the screen to the edge of the right side of the screen. This will make selecting a desired system feature easier for the user. The height of these buttons is TBD. The bottom of the screen will consist of three smaller buttons that will represent Lackmann’s Facebook and Twitter feeds, as well as their promotional page.

## 4.2 Hardware Interfaces

### a. Server Side

The application will be accessing information stored on the Monroe server on the Academia domain at St. John Fisher College. The information will be stored at (<http://monroe.sjfc.edu/lackmann/>). Information for the menus will be pulled from this server and displayed on the user’s Android phone. Lackmann will be responsible for all information being updated on within the application.

### b. Client Side

The system will need an Internet connection in order to access menu information within the application. The device will need internal storage in order to store data on the phone, just in case there is not a connection to the Internet. If the phone does not have enough storage available the device will notify the user.

## 4.3 Software Interfaces

### a. Server Side

The Monroe server is running on Ubuntu 11.04 with Apache 2.0 web service.

### b. Client Side

Smartphone with Android OS 2.2 or later.

## 4.4 Communications Interfaces

The user's Android phone will need access to the Internet via wireless connectivity. Without access to the Internet, the information being pulled up by the user may not be up to date. In order for Lackmann employees to update the information, they will also need Internet access in order to access the web portal where information will be uploaded to the Monroe server via a HTTP protocol.

# 5. Other Nonfunctional Requirements

## 5.1 Performance Requirements

Data files from the Monroe server should take no longer than 10 seconds to be downloaded onto the Android device.

## 5.2 Safety Requirements

No safety requirements have been identified.

## 5.3 Security Requirements

Only Lackmann employees will be given credentials to log into the web portal. This is detailed in the Software Requirements Specification for the Lackmann Web Portal

## 5.4 Software Quality Attributes

TBD

# 6. Other Requirements

Once the application is fully functional, it is up to the Lackmann employees to decide how they would like to make it available to users. Options include releasing application through the Google Play store or providing Lackmann with a downloadable link to the application.