

ISDS 3100  
2/21/13

Spring  
2013



***Sparks Inc.***

***Where ideas become real***

**Elizabeth Bahlinger**

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# Executive Summary

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Here at Sparks Inc., we have revolutionized the shopping experience. We have developed an application, called Shopping Buddy, which will allow shoppers to browse through any shopping mall within the United States. With an integrated map of every shopping mall developed into Shopping Buddy, shoppers will no longer have to worry about getting lost. With just a few touches within Shopping Buddy, shoppers will be able to easily gather information about each store from their selected shopping mall. Best of all, shoppers will no longer have to worry about forgetting where they parked because they will have the ability to drop a pin as a reminder of their parking spot. With multiple stores in one location, shopping malls are designed to be convenient. With Shopping Buddy, we have taken that convenience to new heights.

Shopping Buddy is designed for those individuals that want to enhance their convenience when visiting shopping malls. Shopping Buddy appeals to all consumers that visit shopping malls but targets three main audiences: the individual that wants to plan ahead, the frequent traveler, and the everyday user looking for store trends. Shoppers that want to plan ahead and be as productive as possible may use Shopping Buddy's map and store information features to navigate their selected shopping mall in a timely manner. They will not have to wander around looking for certain stores. Also, Shopping Buddy is great for the frequent traveler that visits new shopping malls. Now it may be a daunting task for some, but with Shopping Buddy, that individual will now be able to access maps, store info, and pin locations. Lastly, the everyday shopper will want to use Shopping Buddy to see what is "hot" in each store by browsing through the store's comment section.

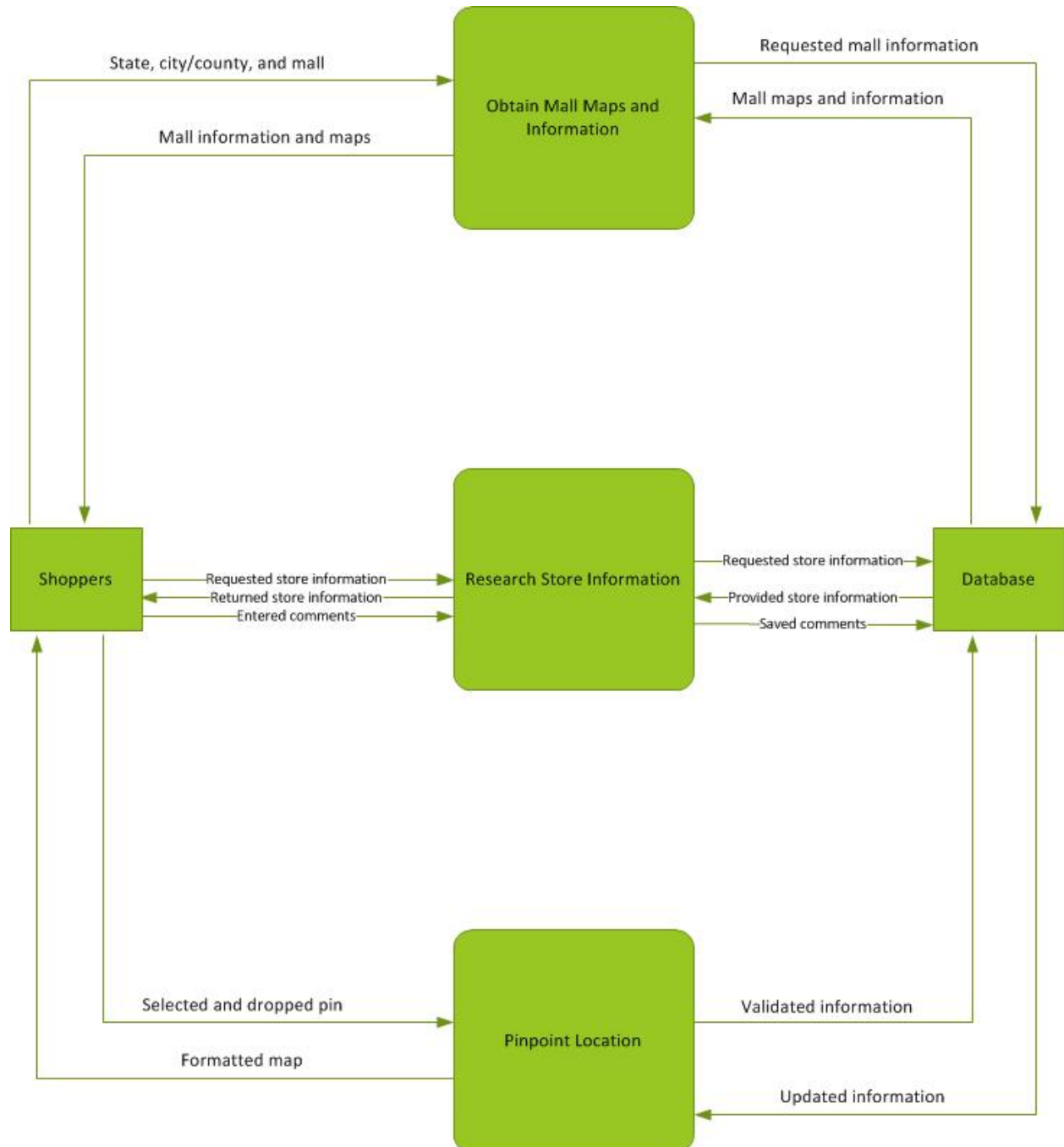
The main aspect that Shopping Buddy will provide to the user is the enhanced convenience of their shopping trip, especially for those unfamiliar with the area. With Shopping Buddy, users will be able to be at home and plan their shopping trip. By having access to the layout and information of every store in every shopping mall, users can strategically plan their shopping experience. By doing so, shoppers will be able to plan where to park based on the stores they want to visit most. The convenience of having the mall layout and the store information all in one application will greatly benefit users. Having a comments section within each store will provide real time feedback from other users. The purpose of this section is to allow shoppers to provide reviews and comments regarding their experience at the store.

Here at Sparks Inc., our vision is to provide all of our shoppers with a phenomenal shopping experience by providing an application that allows the user to pin locations, access shopping mall maps, access store information, and access shopper comments and reviews. In order to succeed, our plan is to conduct a thorough research on what our shoppers want. Shopping Buddy will be developed and designed for shoppers, therefore, their opinions and comments are most valuable. Shopping Buddy will be a continuously developing project based on our shoppers' feedback, and our goal is to provide all shoppers an application that they are proud to have on the front page of their mobile and portable devices.

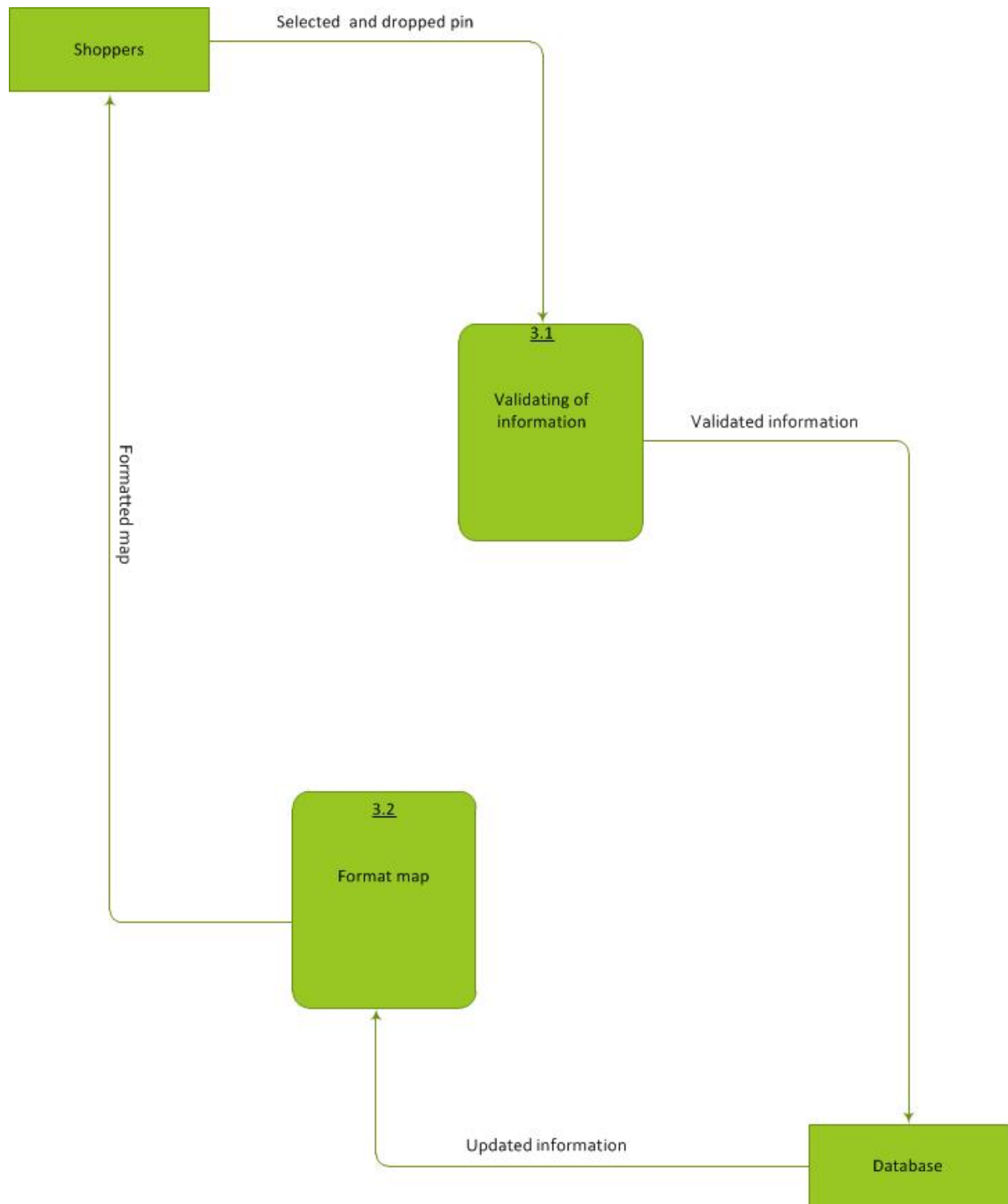
## Context Level



## Level 0



## Level 1



# Requirement Analysis

## **System Description Target Audience:**

Our target audience consists of shoppers that visit shopping malls anywhere in the United States of America. We want to provide these shoppers with the convenience of having the information that they may potentially need when planning or visiting a shopping mall. Our vision is to provide these shoppers with a more pleasant and convenient shopping experience.

## **Identification and Analysis of Stakeholder:**

Shopping Buddy will be used by shoppers that own and operate a mobile smartphone or portable device running iOS, Android, or Windows. Our users will not need any prior technological or specific knowledge when using Shopping Buddy; it will be designed with the elements of ease of accessibility and functionality. We expect that all users downloading our application will be in need of certain information, such as: store reviews and information, mall maps, and store layout. After the deployment of Shopping Buddy, we expect an initial slow growth of users, eventually becoming a high demanded application once it gets momentum.

The success of Shopping Buddy will depend on the usage and commitment from our users. Striving to meet all our users' expectations to deliver a high quality application that provides high functionality and stability is our main objective. The evolution and success of Shopping Buddy will be based on our users' feedback. Shopping Buddy is developed with mall shoppers in mind, therefore the only way to enhance their shopping experience is to listen and consider all their comments and opinions.

## **Current System:**

In a mall environment today, people are only provided with a few map kiosks provided by the mall to find a store's location. If the map kiosks are not helpful they are left to ask other people in the mall or simply wander around until they find what they are looking for. Shoppers are not provided with a GPS system on their phone that will travel with them and follow their moves. Shoppers also have to look up store information and customer reviews on the store. They do not have a single place to go to find the information they need. The current method of finding the way around a mall and finding store information adds time to a shopper's trip.

### Actor Glossary

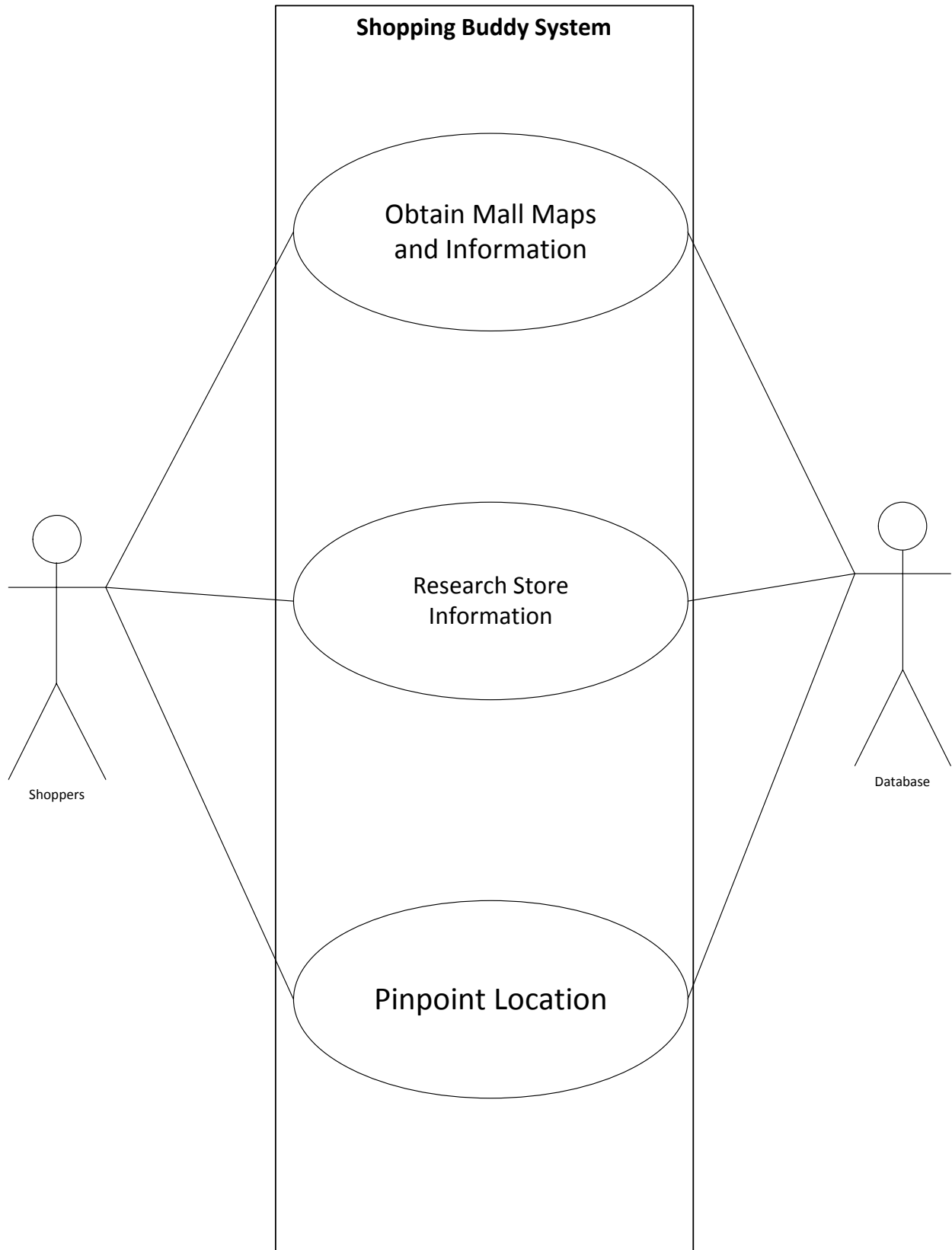
Term	Synonym	Description
1. Shoppers	Consumers	Individuals that own and use the application.
2. Database	Centralized Data Center	Provided by Sparks Inc., an external database will be used to store and provide application information such as maps, store information, inputs by users.



## Use Case Glossary

Use-Case Name	Use-Case Description	Participating Actors and Roles
Obtain Mall Maps and Information	This use-case describes the event when the application retrieves the mall maps and information based on the shopper's request.	Shoppers (Primary) Database (External)
Research Store Information	This use-case describes the event when the shopper retrieves store information, such as the store hours, contact, map, and shoppers' comments. The store's information will be in the database.	Shoppers (Primary) Database (External)
Pinpoint Location	This use-case describes the event when shoppers pinpoint a location or look at pinned locations.	Shoppers (Primary) Database (External)

## Use Case Diagram



**Shopping Buddy**

Author (s): E. Bahlinger, A. Do, T. Mai, A. Nelson, W. Wiesler Date: Mar. 12, 2013

<b>USE CASE NAME:</b>	Obtain Mall Maps and Information	
<b>PRIMARY BUSINESS ACTOR:</b>	Shoppers	
<b>OTHER PARTICIPATING ACTORS:</b>	Database (external)	
<b>DESCRIPTION:</b>	This use-case describes the event when the application retrieves the mall maps and information based on the shoppers' request.	
<b>PRE-CONDITION:</b>	The shoppers have to first run the application and input the necessary information.	
<b>TRIGGER:</b>	The shoppers select their location based on the state, city/county, and the mall.	
<b>TYPICAL COURSE OF EVENTS:</b>	<b>Actor Action</b>	<b>System Response</b>
	<b>Step 1:</b> Upon opening the application, the shoppers will pick the state, then the city/county, then the mall that they choose.	<b>Step 2:</b> The system will accept the shoppers' selections and send it off to the database to process.
		<b>Step 3:</b> The database will process the information received from the application and pull the map and information pertaining to the requested data.
		<b>Step 4:</b> The data is sent to the application for the shoppers' to use. The system will display the mall's home screen.
	<b>Step 5:</b> The shoppers select the "Map" button.	<b>Step 6:</b> The system displays the mall maps.
<b>ALTERNATE COURSES:</b>	<b>ALT-Step 2:</b> If the shoppers do not make all of the necessary selection, state,	

	<p>city/county, and mall, the application will not continue on. The shoppers will be informed to make the necessary selections.</p> <p><b>ALT-Step 3:</b> The shoppers can change their state, city/county, or mall selection if needed.</p> <p><b>ALT-Step 5a:</b> The shoppers can select the “Store” button to view individual store information.</p> <p><b>ALT-Step 5b:</b> The shoppers can select the “Location” button to view the mall maps and use the pinpoint tool.</p> <p><b>ALT -Step 6a:</b> The system displays the “select store” screen.</p> <p><b>ALT –Step 6b:</b> They system returns the “Location” screen and the shopper goes to narrative 3.</p> <p><b>ALT –Step 7:</b> The shoppers can select the back button and go back to the previous screen.</p>
<b>CONCLUSION:</b>	The use-case concludes when the application displays the selected mall’s screen for the shopper to navigate.
<b>POST-CONDITION:</b>	The application has all the maps and information for the mall on the device for the shoppers to navigate.
<b>BUSINESS RULES</b>	<ul style="list-style-type: none"> <li>• The shoppers have the ability to select the desired mall.</li> <li>• Only the information and maps from the selected mall will be sent to the application.</li> </ul>
<b>IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS</b>	The shoppers’ interface application screen will help the shopper interact with the application.
<b>ASSUMPTIONS:</b>	The shoppers are provided with the correct mall maps and information according to their inputs.
<b>OPEN ISSUES:</b>	The speed and ability of the database to retrieve the requested information and send it to the shopper’s application.

## Select A Mall

State:

City:

Malls:

- ID -**Baton Rouge** -Mall of Cortana
- IL -Lafayette -**Mall Of Louisiana**
- IN -Monroe
- IA -New Orleans
- KS -Shreveport
- KY
- **LA**
- ME
- MD
- MA
- MI
- MN
- MS
- MO

CORRESPONDING  
FORMS AND REPORTS:

## Mall of Louisiana

Maps

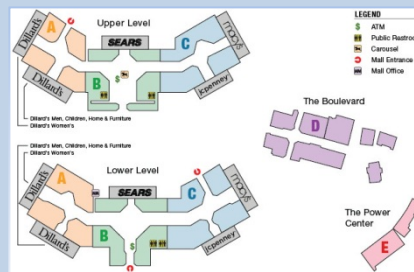
Stores

Locations



Back

## Map



1<sup>st</sup> Floor

2<sup>nd</sup> Floor

**Back**

## Select A Store

- Aeropostle
- Abercrombie
- American Eagle
- Banana Republic
- Dillard's
- Express
- Forever XXI
- Gap
- JCPenny
- Journey
- Lee Michaels
- Macy
- Sears

**Back**

# Location

Pin A

Pin B

Pin C

Pin D

## Back



## Shopping Buddy

**Author (s):** E. Bahlinger, A. Do, T. Mai, A. Nelson, W. Wielser      **Date:** March 12, 2013

<b>USE CASE NAME:</b>	Research Store Information	
<b>PRIMARY BUSINESS ACTOR:</b>	Shoppers	
<b>OTHER PARTICIPATING ACTORS:</b>	Database (External)	
<b>DESCRIPTION:</b>	This use-case describes the event when the shoppers retrieve store information, such as the store hours, contact, map, and shopper comments. The store's information will be in the database.	
<b>PRE-CONDITION:</b>	The shoppers must have selected a specific store.	
<b>TRIGGER:</b>	The use case is initiated when the shoppers select a store from a list.	
<b>TYPICAL COURSE OF EVENTS:</b>	<b>Actor Action</b>	<b>System Response</b>
	<b>Step 1:</b> The shoppers pick a specific store from a list.	<b>Step 2:</b> System returns the store home screen.
	<b>Step 3:</b> The shoppers can upload comments and/or retrieve the store information and comments.	
<b>ALTERNATE COURSES:</b>	<b>ALT –Step 1:</b> The shoppers can type in a comment and push send. <b>ALT –Step 2:</b> The shoppers push the send button without a comment; the shopper will be notified that they did not enter a comment. <b>ALT –Step 3:</b> The shoppers can push the back button.	
<b>CONCLUSION:</b>	The use case concludes when the shoppers have scrolled through the comment.	
<b>POST-CONDITION:</b>	The shoppers have selected the desired store.	
<b>BUSINESS RULES</b>	<ul style="list-style-type: none"> <li>• Shoppers have the ability to view any store in the mall</li> <li>• If shoppers can view comments</li> </ul>	
<b>IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS</b>	The application will be able to reveal only information on the selected mall.	
<b>ASSUMPTIONS:</b>	The shoppers select the desired store that they want to look into.	

**OPEN ISSUES:**

The store information will not always be updated every single day.

**CORRESPONDING  
FORMS AND REPORTS:**

## Select A Store

- Aeropostle
- Abercrombie
- American Eagle
- Banana Republic
- Dillard's
- Express
- Forever XXI
- Gap
- JCPenny
- Journey
- Lee Michaels
- Macy
- Sears

[Back](#)

## Store

### American Eagle

Contact:

225-761-1801

Hours:

Mon-Sat 10am-9pm

Sun 12pm-6pm

Big Sale at the mall

Mega sale hours going on guys

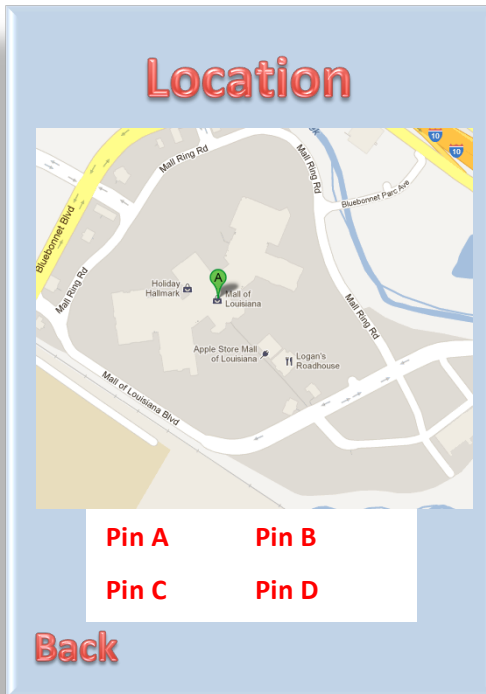
[Back](#)

## Shopping Buddy

**Author (s):** E. Bahlinger, A. Do, T. Mai, A. Nelson, W. Wiesler

**Date:** March 12, 2013

<b>USE CASE NAME:</b>	Pinpoint Location	
<b>PRIMARY BUSINESS ACTOR:</b>	Shoppers	
<b>OTHER PARTICIPATING ACTORS:</b>	Database (External)	
<b>DESCRIPTION:</b>	This use-case describes the event when the shoppers pinpoint a location or look at pinned location.	
<b>PRE-CONDITION:</b>	The shoppers must first select the location button and then select one of the four possible pins.	
<b>TRIGGER:</b>	The use case is initiated when the shoppers select a pin to use and drops it in the map.	
<b>TYPICAL COURSE OF EVENTS:</b>	<b>Actor Action</b>	<b>System Response</b>
	<b>Step 1:</b> The shoppers will select one of four pins to drop on their location.	<b>Step 2:</b> The database receives the information about the pin on the map and saves it for the user to view later.
<b>ALTERNATE COURSES:</b>	<b>ALT-Step 2:</b> The shoppers select a different pin.	
	<b>ALT-Step 3:</b> The shoppers push the back button.	

<b>CONCLUSION:</b>	The use case concludes when the shoppers uses the pins they wanted and return to the mall home screen.
<b>POST-CONDITION:</b>	The database has saved the pins that the shoppers have dropped for their future reference.
<b>BUSINESS RULES</b>	<ul style="list-style-type: none"> <li>Shoppers can only use the pin-point tool while on mall premises.</li> </ul>
<b>IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS</b>	The shoppers are limited to only four different pins that they can use.
<b>ASSUMPTIONS:</b>	The shoppers will drop pins on the specific locations based on their preferences.
<b>OPEN ISSUES:</b>	The shoppers may potentially want to use more than four pins.
<b>CORRESPONDING FORMS AND REPORTS:</b>	

## Detailed Activity

### Milestone 3

Team Members	Roles
Elizabeth Bahlinger	Member
Anthony Do	Member
Tommy Mai	Member
Andrew Nelson	Leader
William Wiesler	Member

### Team Presentation

Team Members	Roles
Elizabeth Bahlinger	Member
Anthony Do	Member
Tommy Mai	Member
Andrew Nelson	Member
William Wiesler	Leader

### Activities

Elizabeth Bahlinger	<ul style="list-style-type: none"><li>• Team Work for DFD's</li></ul>
Anthony Do	<ul style="list-style-type: none"><li>• Revising Milestone 2</li><li>• Team Work for DFD's</li></ul>
Tommy Mai	<ul style="list-style-type: none"><li>• Revising Milestone 2</li><li>• Team Work for DFD's</li></ul>
Andrew Nelson	<ul style="list-style-type: none"><li>• Team Work for DFD's</li></ul>
William Weisler	<ul style="list-style-type: none"><li>• Team Work for DFD's</li></ul>
<b>Comment:</b> For Milestone 3, our team worked together to complete the Data Flow Diagrams. t. As a team, we proof-read the document for grammatical errors and consistency among the individual documents.	

## **Appendix**

### **Functional and Non-Functional Requirements**

#### **Functional Requirements**

##### **Obtaining Mall Maps and Information**

- 1.1 The database will provide shoppers with a general map of the specific mall.
- 1.2 The database will have the ability to provide the shoppers with information about a specific store and provide its location within the mall.
- 1.3 The shoppers will be able to select the state and city, and then have the option to choose a mall from a list.

##### **Researching Store Information**

- 2.1 The shoppers will be able to view the store information, map, and shopper comments.
- 2.2. The database will recognize any changes and update the shoppers' experience.

##### **Pinpoint Location**

- 3.1 The application will allow shoppers to drop a pin where they choose to park or at a specific location within the mall.
- 3.2 The application will utilize Google Maps along with the pin drop tool to help the user locate exactly where they parked or a particular store.
- 3.3 The database will save the pinned locations for the shoppers' reference.

#### **Non-Functional Requirements**

##### **Operational**

- 1.1 The application will be able to be used on handheld devices.

##### **Performance**

- 2.1 The application will be available on iOS, Android, Windows devices.
- 2.2 This application will be available 24/7/365 with a speed of 3925 kbps.

##### **Security**

- 3.1 Location information will be kept private and secured.
- 3.2 No specific shoppers' information or data will be collected.

##### **Cultural and Political**

- 4.1 No special cultural and political requirements are expected.

## Statement of Work

Sparks Incorporated

Prepared: 2/21/13

Statement of Work

Project Name:

Shopping Buddy

Project Manager:

Elizabeth Bahlinger

Customer: Shoppers' interested in visiting shopping malls within the United States

Project Start/End Date (projected):

2/29/13-3/29/13

Sparks Incorporated Development Staff Estimates (man-months):

Programmers: 1.0

Application Designers: 1.0

Database Manager: 1.0

.....  
Total: 3.0

### Goals

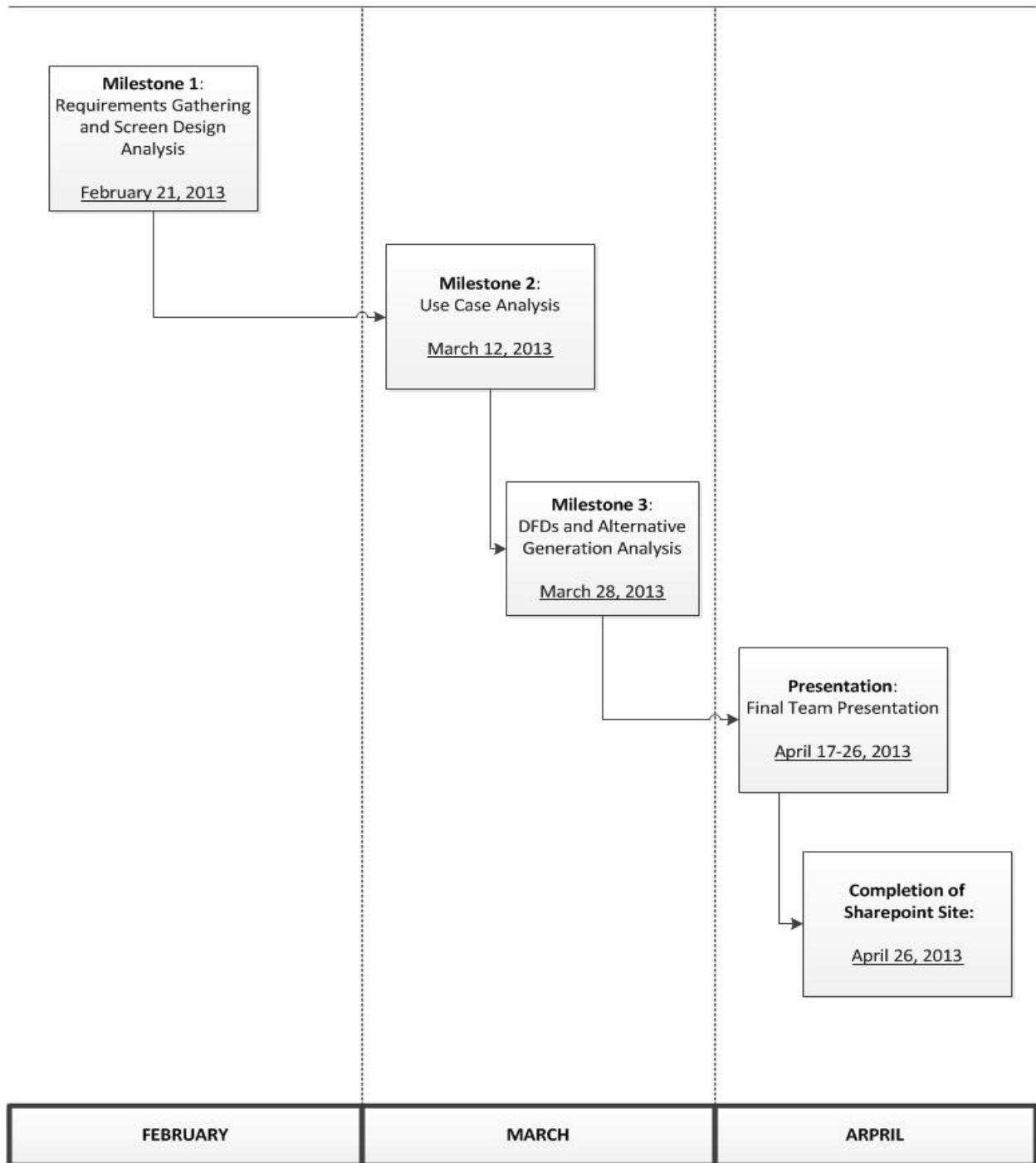
This project will implement a mobile and portable device application that will provide shoppers an ample amount of information about their chosen shopping mall. Shoppers may then access the provided information to plan, assist and enhance their shopping experience.

The primary purpose of this application is to provide shoppers the needed information in a convenient single application, assisting them in their planning and decision making when visiting a shopping mall. This, in turn, will save our shoppers time on gathering information and allowing them to focus more on their shopping experience.

### Objectives

- Provide timely and accurate information
- Provide up to date shoppers' comments and reviews
- Reduce time spent searching for store location and information
- Reduce time spent searching for location of parked car

## Phases of Work





## Scope Statement

Shopping Buddy  
Statement of Project

Prepared By: Sparks Inc.  
Scope Date: February 21, 2013

### **General Project Information:**

Project Name: Mall Application  
Project Contact: Elizabeth Bahlinger  
Project Employer: Sparks Inc.

### **Problem/Opportunity Statement:**

Many people consider a trip to the mall a hassle, and devote a great deal of time out of their day to plan their trip. Mall maps and store information is not easily available to shoppers in a timely manner. A new system needs to be implemented to help make a trip to the mall more efficient.

### **Project Objective:**

To help people make their shopping trips more efficient and enjoyable, this application will assist people by providing a mall map, a pin point feature, and a place for shoppers to interact with others through comments.

### **Project Description:**

An application created with accessibility to every mall in the United States to provide maps and store information available to shoppers. Shoppers can use the featured comment section to inform other users about the mall. There will also be a pin drop tool that will be available to shoppers to save information about where they have been in the mall upon the shopper's action.

### **Business Benefits:**

Improve Customer Service  
Improve time utilization  
Improve Location Identification

### **Project Deliverables:**

Mobile application for shoppers  
Database to store maps  
User-friendly graphical user interface