
MIAMI

CSC 431

EarMark (Earmark)

Software Requirements Specification (SRS)

<Team number: 1 (8)>

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Version History

Version	Date	Author(s)	Change Comments
1	2/5	Kerui Zeng	Functional Requirements and Unfunctional Requirements
1.01	2/19/2020	Julio Perez	Added comment on how to write scenarios and use case diagram
2	2/24/2020	BackBurners	Fixing the mess; adding Use Cases
2.01	5/2/2020	Backburners	checking over

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1.System Requirements

1.1. Functional Requirements

< List all functional requirements in the following example format >

ID	FR0
Title	Money balance
Description	Site should display monetary balance and keep track of expenses, deposits, and be able to calculate the remaining balance and assist the user with any necessary budgeting needs.
Priority	<Priority from 0 (highest) – 5 (lowest)>
Precondition(s)	<What needs to happen before>
Basic Flow	<Brief, Sufficiently descriptive details of interaction>
Postconditions(s)	<What happens as a result>
Use Cases	<Link or number, if present>

ID	FR1
Title	Login System
Description	System that allows users to create accounts and login thus accessing their data pertaining to their account. User can also request to change their password using their email or username.
Priority	0
Precondition(s)	<What needs to happen before>
Basic Flow	<Brief, Sufficiently descriptive details of interaction>
Postconditions(s)	<What happens as a result>
Use Cases	<Link or number, if present>

ID	FR2
Title	Linking to bank accounts
Description	User should be able to link their bank account to the app so they can access their balance
Priority	0
Precondition(s)	<What needs to happen before>
Basic Flow	<Brief, Sufficiently descriptive details of interaction>
Postconditions(s)	<What happens as a result>
Use Cases	<Link or number, if present>

ID	FR3
Title	Push Notifications
Description	System will send users push notifications so the users can be notified of when they need to make a payment, cancel a subscription, or if a bill has been raised/lowered.
Source Scenario	<Code for associated scenario in SCD>
Precondition(s)	<What needs to happen before>
Basic Flow	<Brief, Sufficiently descriptive details of interaction>

Postconditions(s)	<What happens as a result>
Use Cases	<Link or number, if present>

ID	FR4
Title	User Profile
Description	Stores the user's login information (username and password) and allows them to change it if need be. Also allows the user to add an email, phone number, etc.
Priority	0
Precondition(s)	<What needs to happen before>
Basic Flow	<Brief, Sufficiently descriptive details of interaction>
Postconditions(s)	<What happens as a result>
Use Cases	<Link or number, if present>

ID	FR5
Titlef	Database Implementation
Description	A database system connected to the app that store info that can be loaded when logged in, updated throughout a session, and/or deletion of information.
Priority	0
??	<What needs to happen before>
Basic Flow	<Brief, Sufficiently descriptive details of interaction>
Postconditions(s)	<What happens as a result>
Use Cases	<Link or number, if present>

2. Non-Functional Requirements

< List all non-functional requirements in the following example format >

ID	NFR0
Title	Tracking transactions
Description	In order to keep an accurate track of expenditures and earnings, the app needs to keep track of the transactions reflected in the bank statements and the user's input to reflect the most updated details at all times. The app should also be able to identify similar types of purchases (ex. monthly subscriptions) and group them together, and track price raises in automatic payments over time to notify the user.
Priority	<Priority from 0 (highest) – 5 (lowest)>
Applicable FR(s)	<Which functional requirement(s) is this applicable to?>

ID	NFR1
Title	Money balance
Description	The app in the database should keep track of how much money the user has in their bank account
Priority	3

Applicable FR(s)	<Which functional requirement(s) is this applicable to?>

ID	NFR2
Title	Linking to bank accounts
Description	The app should securely link users' bank accounts without having any security threats when it comes to hacking or leaks of sensitive information by using the web service Plaid.
Priority	0
Applicable FR(s)	<Which functional requirement(s) is this applicable to?>

ID	NFR3
Title	Push Notifications
Description	The notification alert should appear to the user even while they are not using the app
Priority	0
Applicable FR(s)	<Which functional requirement(s) is this applicable to?>

ID	NFR4
Title	Database System
Description	Information is correctly stored for the user per session so their information is persisted correctly and shown to the user in app.
Priority	3
Applicable FR(s)	<Database System>

3. System Constraints

3.1. Tool Constraints

< List all tool constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.2. Language Constraints

< List all language constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

ID	LC1
Title	Javascript, bootstrap (CSS), HTML
Description	All application code will be written as a combination of Javascript, HTML, and CSS (bootstrap)
Priority	0

3.3. Platform Constraints

< List all platform constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.4. Hardware Constraints

< List all hardware constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.5. Network Constraints

< List all network constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.6. Deployment Constraints

< List all deployment constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.7. Transition & Support Constraints

< List all transition & support constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.8. Budget & Schedule Constraints

< List all budget & schedule constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

3.9. Miscellaneous Constraints

< List all miscellaneous constraints in the following example format >

ID	<a unique ID for the constraint, e.g., C1)>
Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>

4. Use Case Modeling

Title	Check Budget
Description	System should provide an expandable/collapsible (collapsed by default) control that will enable the display of a menu of basemaps from which the user can select. Only one basemap may be displayed at any time
Priority	0
Precondition(s)	display main map view
Postconditions(s)	selected based map displayed on main map view
Use Case Diagram	main map view use cases

Title	zoom/unzoom map

Description	By using either (both) double-clicking, or using a scroll wheel, the user should be able zoom in and out of the basemap displayed in the main map view
Priority	0
Precondition(s)	display main map view
Postconditions(s)	map displayed at selected scale
Use Case Diagram	main map view use cases

Title	pan map
Description	By clicking and holding the left (main/default) mouse button the user will be able to move the map around the main map view pane
Priority	0
Precondition(s)	display main map view
Postconditions(s)	after releasing the left mouse button the displayed map will remain in the selected position
Use Case Diagram	main map view use cases

Title	select map overlay
Description	A control will be provided to allow the user to select from a set of map overlays and display the selected overlay on top of the current basemap. Currently identified subclasses of this use case include “display elevation” and “display sea-level”
Priority	0
Precondition(s)	display main map view
Postconditions(s)	selected overlay displayed on top of currently selected basemap
Use Case Diagram	main map view use cases

Title	display elevation overlay
Description	Subcase of map overlay. A map overlay displaying current elevation above mean sea-level at a pixel resolution of 5 feet will be display on top of the currently selected base map
Priority	0
Precondition(s)	select map overlay
Postconditions(s)	elevation above mean sea-level at a pixel resolution of 5 feet will be displayed on top of the currently selected base map
Use Case Diagram	main map view use cases

Title	display sea-level overlay
Description	Subcase of map overlay. Three currently identified subcases exist: 1) historic sea-level in 1990; 2) current sea-level (2020); and 3) future projected sea-level in 2040, 2060, or 2120. User will be able select one of the above three mutually exclusive options at a time. In the case of future projected sea-level, the user must select a specific year. A map overlay displaying the contour of the coastline based on the selected year at a pixel resolution of 5 feet will be display on top of the currently selected base map

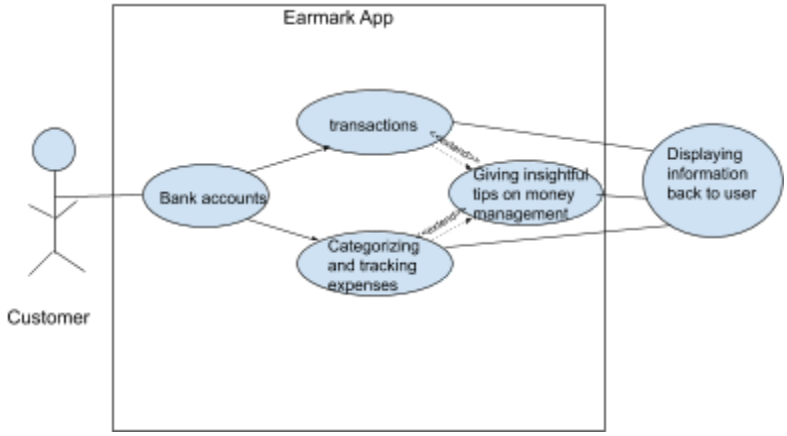
Priority	0
Precondition(s)	select map overlay
Postconditions(s)	A map overlay displaying the contour of the coastline based on the selected year at a pixel resolution of 5 feet will be display on top of the currently selected base map
Use Case Diagram	main map view use cases

Title	display vector layer
Description	A control will be provided to enable the user to select from a set of "vector" data layers. These layers will be display on top of any other currently displayed layers (such as the basemap and map overlays). Vector layers contain graphical objects (features) that may be interacted with by the user. Use cases for interaction with these feature objects remain to be defined. Controls to filter layer features by standard attributes and to search layer features using free-text will also be provided. The use cases for these actions are displayed in the diagram but not yet defined in more detail.
Priority	0
Precondition(s)	display main map view
Postconditions(s)	selected vector layer displayed on top of all other map layers
Use Case Diagram	main map view use cases

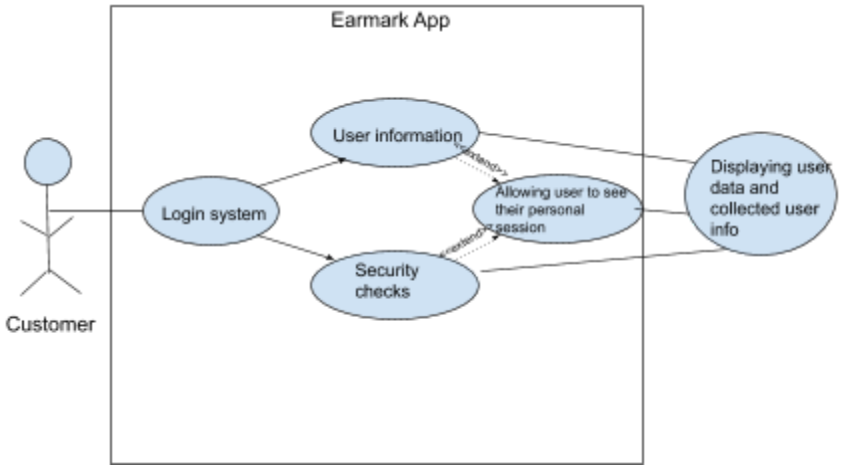
Title	display historic properties layer
Description	Subcase of display vector layer. Points denoting the location of historic sites will be displayed. These points will be colored based on TBD attributes such as type, or status.
Priority	0
Precondition(s)	display vector layer
Postconditions(s)	selected vector layer displayed on top of all other map layers
Use Case Diagram	main map view use cases

Title	display infrastructure layer
Description	Subcase of display vector layer. Points, lines and polygons designating sites of critical infrastructure such as bridges, power transmission, water, sewer, etc. These points will be colored based on TBD attributes
Priority	0
Precondition(s)	display vector layer
Postconditions(s)	selected vector layer displayed on top of all other map layers
Use Case Diagram	main map view use cases

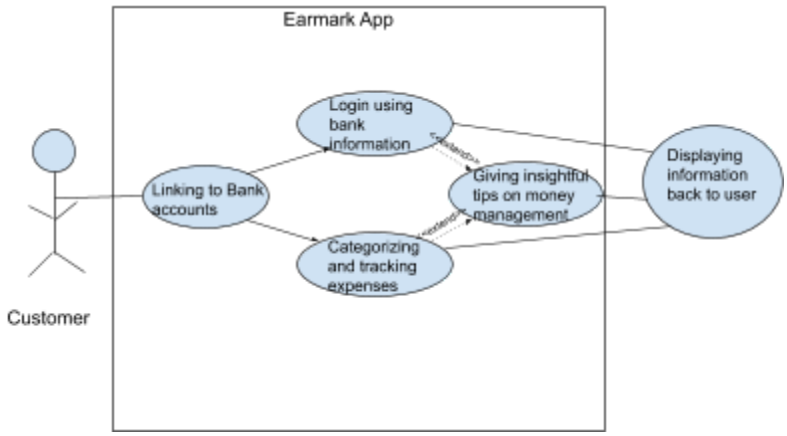
Use-Case Scenario for FR0



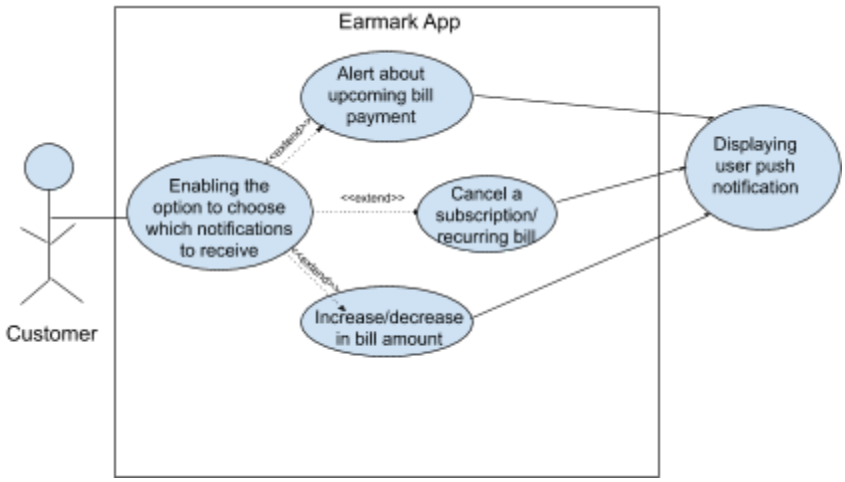
Use-Case Scenario for FR1



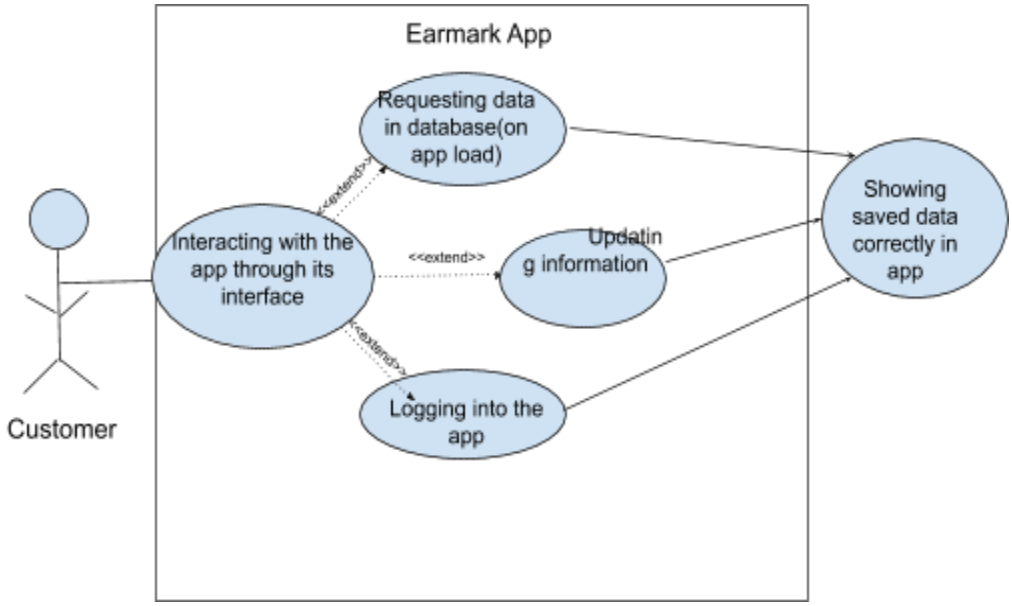
Use-Case Scenario for FR2



Use-Case Scenario for FR3



Use-Case Scenario for FR5



5. Evolutionary Requirements

5.1. Functional Requirements

< List all functional requirements in the following example format >

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>
Precondition(s)	<What needs to happen before>
Postconditions(s)	<What happens as a result>
Use Case Diagram	<Link or number, if present>

5.2. Non-Functional Requirements

< List all non-functional requirements in the following example format >

Title	<Insert title>
Description	<A one or two sentence description>
Priority	<Priority from 0 (highest) – 5 (lowest)>
Applicable FR(s)	<Which functional requirement(s) is this applicable to?>