

Software Requirement Specification

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1. Introduction

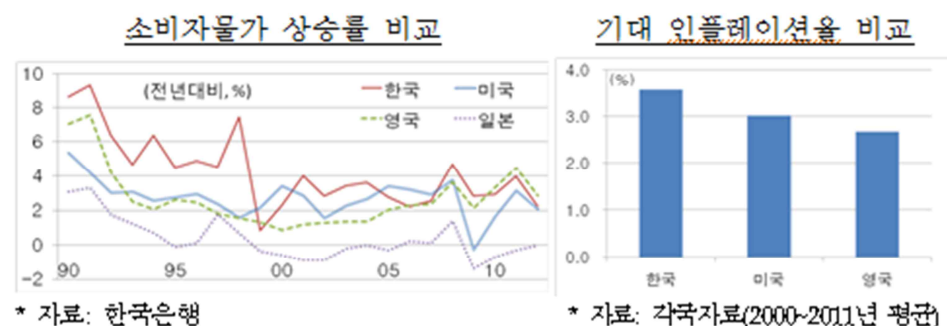
1.1 Purpose

- Purpose of SRS

- ◆ The Purpose of this SRS document is to provide a detailed description of the requirements for the '오늘의 시세' application. This SRS will allow a understanding of the application purpose. For future of the project, Construct a developed function and design so that the project can proceed correctly.

- Why we need

- ◆ Simplifying the distribution stage and the price difference
 - South Korea is a high level of inflation and inflation expectations in comparison with developed countries.



- This is caused by complex, and that the lack of competition caused by structural problems due to inefficient distribution systems and monopolies.
- This is caused by structural problems, complex and inefficient distribution systems and the lack of competition caused by monopoly. In response to this, the government and retailers simplify the distribution stage and create an alternative channel, trying to lower inflation and expected inflation figures. Also to promote this efficiently, government and private agencies are working together, are investigating the local price being currently on the market, make these information public data and provide public data.
- ◆ Government 3.0 and public data

- With the keyword, openness, sharing, communication, and collaboration, government make progress 'Government 3.0' and is actively opening up public information. The government has been providing customized services using public information. The government is making a new creative economy. Software development is becoming increasingly active in using public information among developers. Developers can be obtained with high reliability and accuracy quote information using the public information provided by the government.
- ◆ Various existing app, How inconvenient
 - Google Play Store, there are already several quotes provided applications. But the inconvenience we have experience using these applications were frequent updates, the interface and significantly slow search speed. First, the quote is the value of a certain time. However, the fluctuation of the market price has not been updated continuously. So the reliability of information has fallen. Second, the problem of the application is interface. In application to check the price demanded a large touch except for searching directly. Application has caused discomfort to the user due to the large touch. Finally, the inconvenience while using the application is slow search speed. The application is too slow to get information on prices. Each time to check the market price, we have to wait a few seconds to bring up the market price information. The wait is too frustrating and inconvenient for the user.

1.2 Scope

- Product's Name
 - ◆ 오늘의 시세, Android Application providing Quote of the day.
- Product's Goal
 - ◆ To provide the price of agricultural and fishery products quotes circulated in the country.
- Product's Functions

- ◆ The main function of '오늘의 시세' is to provide a quote of each item circulated in the country. Each item is largely divided into main category, sub category, sub-sub category and made the classification detailed. Thus, we can identify the exact quote of items. This application provides a quote of the items but also provide wholesale and retail quote of the items. Thus the application can provide a quote to meet retail consumer and wholesalers. It also indicates the rate of change between the quote in recent days as a graph. Therefore, to use the application induces more sensible choice for our customers. In addition to searching through classified items, customer can find out the market price to search by keyword for items. In addition, the app contains the auto-complete system for searching. Therefore, after user enters a product name only a few words, the application can show a list of names of items automatically. So the application provides a convenience to users.
- Product's Target
 - ◆ Includes all those who want to know the market value. In particular, people involved with retail industry and housewives are the main customers.

1.3 Definition

- Location : User location based on GPS
- Searched list : The list of items being searched by user in search menu
- Preference list : The list of items in which user adds preferred items
- Category : The division of items in three steps(main, sub, sub-sub)
- Result : The result of item informations appeared the way of graph
- Auto-complete : The function that provide auto-complete when user search items in search menu

- Price : The price of items
- Government 3.0 : New government management paradigm
- Public data : The data that provided by government and allowed to people
- Agro-fishery products : Agricultural products and marine products
- Internal database : Database that exists in user device not server

1.4 Overview

- In the second entry, we indicate the social status related this application, application background and whether similar applications are exist. And we indicate how we overcome these problems.
- In the third entry, we specify the interface of hardware, software, client and server and look at the program as a whole. And we described simple requirements and user handling exceptions.
- In the number 4, we refer detailed requirement of this application.

2. Related Status

2.1 Related applications

- 농수산물 가격정보(KAMIS)
- 농수산물 가격 정보
- 농수산 정보 도우미

2.2 Problems of related applications

- Agricultural products prices(농수산물 가격정보, KAMIS)
 - ◆ This application is made by Korea Agro-Fisheries & Food Trade Corp. Because application is made by public affair, this application is the only application that has a steady update. This application has been steadily updated for three days or a week. So the reliability of the information is higher than other similar applications. Also, the interface of this application has good visibility and the user can use comfortably. Problem with this application is that the items that customer can check are limited. And this application shows up in the national as well as local market quote of items. Therefore, this application provides even unnecessary information to the user.
- Agricultural products prices(농수산물 가격 정보)
 - ◆ The application is composed of a simple interface. Using this application, the user can know the quote of agro-fishery products distributed in various places, such as supermarkets. However, an application update was stopped. Even if the feedback, the application does not be fixed.
- Agro-fishery products Information Assistant(농수산 정보 도우미)
 - ◆ The application provides international agro-fishery products, as well as the domestic quotes. However, the interface is less convenient. And an update of this application is stopped.

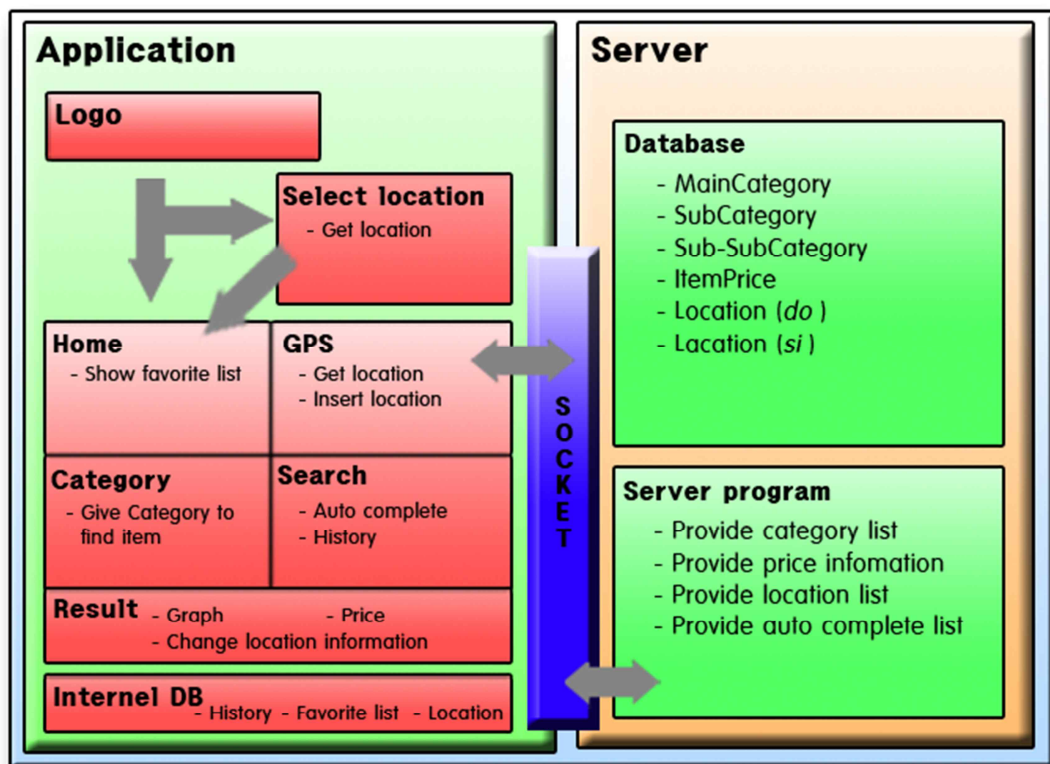
2.3 Improvement

- Delete unnecessary information
- Simple and intuitive interface
- Allowing users to quickly access the information that users are looking for
- Rapid feedback and ongoing application updates

3. Overall Description

3.1 Product Perspective

3.1.1 Detailed Methodology



3.1.2 System Interfaces

◆ Client-side interface

- specification : Mobile Device, Android Jellybean 4.1 or higher(API level 16 higher)

3.1.3 Hardware Interfaces

◆ Server Configuration

- OS: Ubuntu 14.04.1 LTS (GNU/Linux 3.13.0-46-generic i686)
- CPU: Intel(R) Core(TM)2 Duo CPU E4500 @ 2.20GHz
- RAM: 2 GB
- Storage: 298.1G Harddisk
- Bandwidth: 100 MBPS

- ◆ Client Configuration

- OS: Android

3.1.4 Software Interfaces

- ◆ Database: mysql Ver 14.14 Distrib 5.5.41, for debian-linux-gnu (i686) using readline 6.3
- ◆ Web framework: tornado version 4.1, python version 2.7.6
- ◆ Web server: Apache/2.4.7 (Ubuntu)

3.1.5 Communications Interfaces

- ◆ Based on Client-Server architecture, communication between the server and the users get accomplished.
- ◆ User send device ID.
- ◆ When the user request to the server via the app items they want, the server gives user information about the item.

3.1.6 Operations

- ◆ When the user runs the app, application stores the user's information in the DB server.
- ◆ When a user runs the app, application determines the user's information and automatically logged in.
- ◆ The application provides the user with a quote of the day in agro-fishery products by item.
- ◆ The application provides a GPS location service. When user turns on the GPS position, the application set the location of device to current location.
- ◆ Without the GPS settings, user can change directly by passively up to Si/Gun/Gu scope.
- ◆ The user can search for the desired item. This application can give the product name to search autocomplete the application can show the history of the search of these items before.

- ◆ There is a separate breed of main, sub and sub-sub category, user can use the index to determine the market price for the desired item.
- ◆ If user registers item to user's preference item, this application can gives preference displace the item list on the home screen. In addition to the items user preferred, this application gives afloat in the preferred list items that user viewed a lot.

3.2 Product functions

No	Particulars
1	User registration
2	User Login
3	Search Index
4	Retrieve
5	Preference List
6	Set Position
7	Provide market price

3.3 User Characteristics

3.3.1 Experience of android application - Low (aged people)

3.3.2 Technical Expertise – Low

3.4 Constraints

3.4.1 Less development experience of developers

3.4.2 Slow pace of development

3.4.3 Ugly design

3.4.4 Less functions related to social (profile, comment etc)

3.5 Assumptions and dependencies

- When user set GPS setting at the position of GPS setting screen, if user's device does not hold the GPS, the GPS gives a float setting window of user's device.
- When the internet is suddenly cut off, the application launches a dialog window that informs the user not connecting to any network.
- Exit application basically occurs when pressing the back button twice in succession. If user press the back button once, the application launches a dialog at bottom that informs 'Double press to exit' to user. And in the next floating window in which the menu, pressing one back button means go back to former window.

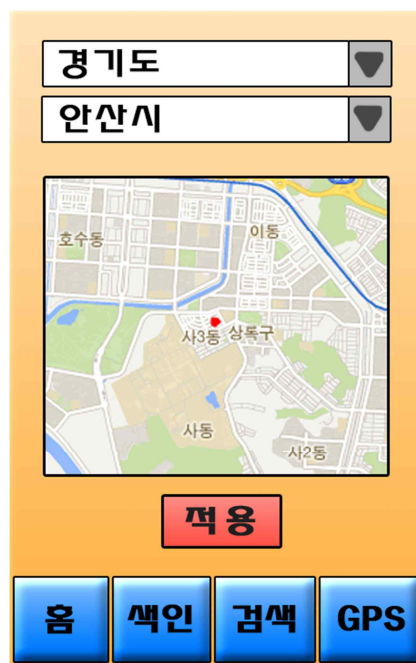
4. Specific requirement

4.1 Concept

- Home



- GPS



- Category

대분류	중분류	소분류
과일	사과	국산
야채	딸기	하우스
축산	수박	수입
어패류	배	

홈

색인

검색

GPS

- Search

살

살구

목살

삼겹살

항정살

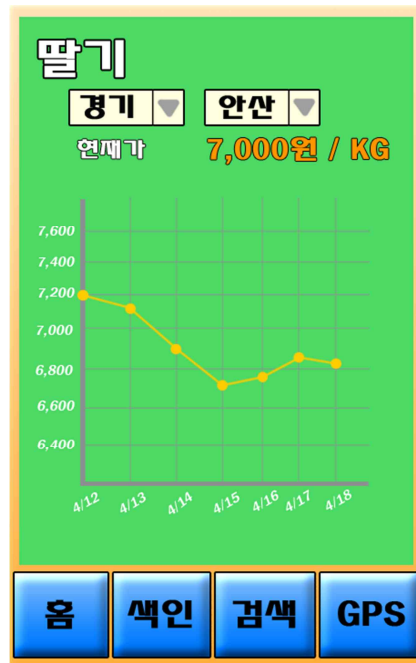
홈

색인

검색

GPS

- Result



4.2 External interface

- Android device version 4.1 or higher (Jellybean or higher)

4.3 Functional requirement

No	Features	Functionality	Descriptions
1	User Registration	Stores the user's information on DB on the server.	When user run the app, application will automatically take the user's device ID and store the user's device ID in the DB on the server.
2	User Login	Determine the user's information, and automatically log in.	<p>When a user runs the app, the application receives the user's device ID. And the application ensures that the user's device ID exists on DB of the server.</p> <p>If the user of the device ID does not exist on DB of the server, the application proceeds to execute the User Registration and go to Set Position. In set position user decide whether to use GPS or the direct area.</p> <p>If the user of the device ID to the DB of the server exists, the login is automatically goes to the home.</p>

3	Search Index	There are separate breeds by main, sub, sub-sub category to select the desired item.	Agro-fishery products are classified into 3 levels with main, sub, sub category. The user can himself select the desired produce sequentially by selecting the classification.
			When the user selects a three-step sequential classification, the application passes the item to Provide market price.
			If you select a category at previous stages, the screen is refreshed to selecting classification screen of selected item.
4	Retrieve	Can retrieve the item. Autocomplete goods name user search, and shows the history of these items searched.	User can search for the item by name.
			Allows users to auto-complete, based on the agro-fishery products names in the database for the name you entered.
			Application shows the history of the item user searches before using android internal database.

5	Preference List	From the Home screen gives a pop up list of user preference products.	If user registered items in user preference, the application give preference afloat of the item list at the first screen when user run the app.
			In addition to your favorites, the application gives the list of item that user viewed a lot in user preference list.
			Preferred item list is afloat in order to user preference item list - frequency of view of user. . However, if the frequency is equal to or user preference list, the alphabetical order of priority.
6	Set Position	Turn on your GPS location automatically set or manually enter a location change.	Providing a GPS location service, and if user turns on the GPS the application set to the position where the device is.
			Without the GPS settings can be changed directly by passively up to the Si/Gun/Gu.

7	Provide market price	Quotes for agro-fishery products will be provided to users.	The application brings market price of agro-fishery products provide data on the site http://www.kamis.co.kr . And provide this information to user.
			The application automatically brings data from the server in daily. This application puts the imported Excel file to the database.
			After the user selects an item, the application shows graph for the selected agro-fishery products by day in the x-axis, and price in the y-axis.
			When the user clicks the button, wholesale or retail, the application shows the corresponding graph.

4.4 Performance requirement

4.4.1 The number of simultaneous connection :

- ◆ Server memory is 2GB
- ◆ So the system holds the connection almost 500 people. (no optimization)

4.5 Device requirement

4.5.1 Please refer section 3.1

4.6 Database requirement

4.6.1 Database in server contains

- ◆ Region data (up to Do, Si, Gun, and Gu)
- ◆ User device ID
- ◆ Category (main, sub, sub-sub)
- ◆ Each item information
 - Which category includes the item
 - price(retail, wholesale)
 - unit
- ◆ Internal database
 - The number of search for each item
 - User preference data
 - User region

4.7 Design Constraints

4.7.1 Standards Compliance

- ◆ Software Requirement Specification: IEEE 830
- ◆ Software Project Management Plans: IEEE 1058

4.8 Software System Attributes

4.8.1 Reliability

- ◆ The system will retrieve algo-fishery products data using public data. Cause the public data is provided by government, the data has a reliability. Our system has the latest data because the system crawl the data day after day.

4.8.2 Maintainability

- ◆ The system is developed using python. Python is a programming language that lets developer work quickly and integrates system more effectively. So, although the format of data will be changed, minimal efforts shall be required to update the system.

4.8.3 Portability

- ◆ Because the system is developed using python, back-end system can run in any OS.

4.8.4 Convenience

- ◆ To search for algo-fishery products in web, user have to install a lot of active-X. And web page can't run except IE. Our application will run in all of the android device up to Jellybean.