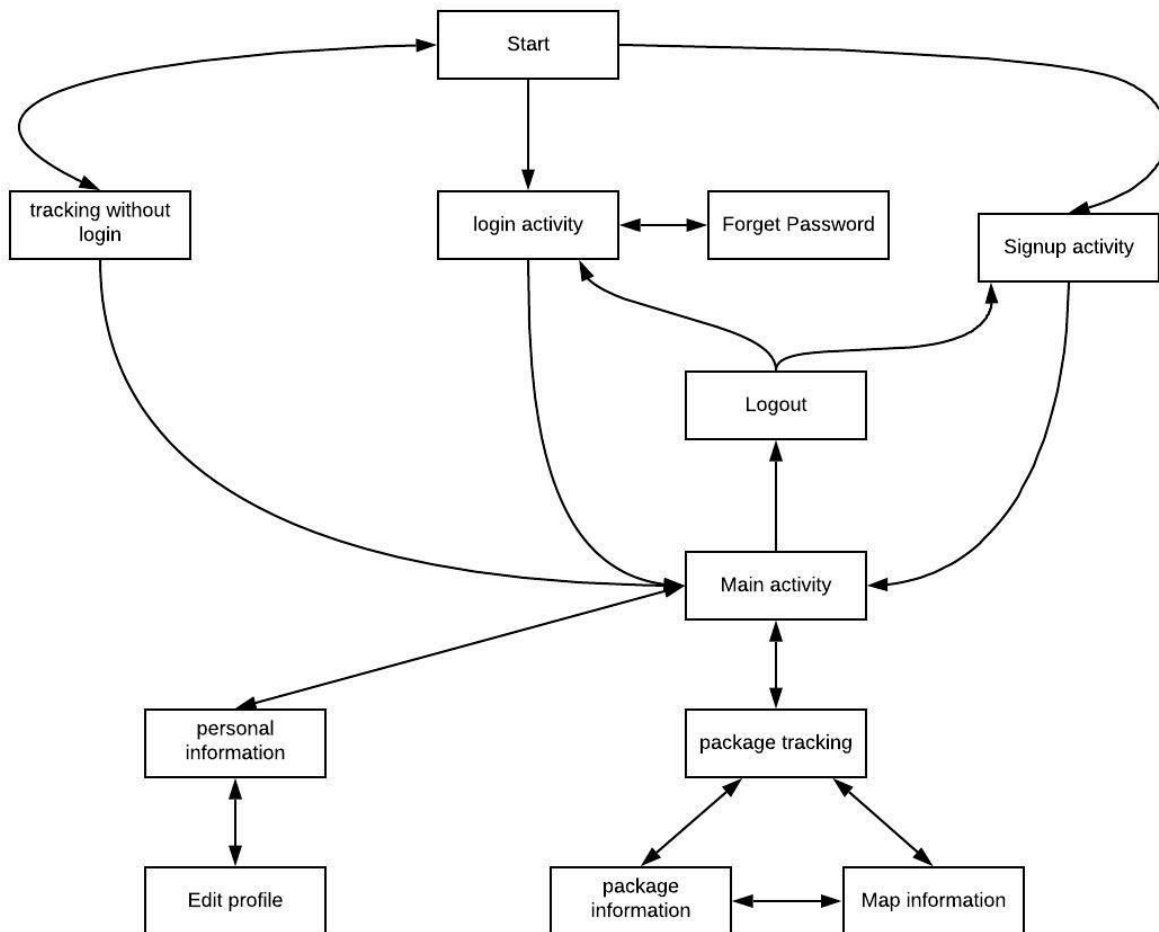


Incremental and Regression Testing

1. Classification of Component



1.1 Component Structure

Start:

- Input: None
- Output: None
- Parent Dependency: None
- Child Dependency: Tracking without login, login activity, signup activity

Login activity:

- Input: email address/username, password
- Output: Credential validation (Success/Fail)
- Parent Dependency: start, Forget Password, Logout
- Child Dependency: Forget Password, Main Activity

Signup activity:

- Input: email address, username, password
- Output: None
- Parent Dependency: start, logout
- Child Dependency: Main activity

Forget password:

- Input: email address
- Output: reset password email with reset link
- Parent Dependency: login activity
- Child Dependency: login activity

Tracking without login:

- Input: tracking ID
- Output: package information
- Parent Dependency: start
- Child Dependency: Main activity

Main activity:

- Input: tracking ID
- Output: package information
- Parent Dependency: login activity, signup activity, tracking without login, personal information, package tracking,
- Child Dependency: logout, personal information, package tracking.

Logout:

- Input: None
- Output: login activity, signup activity
- Parent Dependency: main activity
- Child Dependency: login activity, signup activity

Personal Information:

- Input: None
- Output: None
- Parent Dependency: main activity, edit profile
- Child Dependency: main activity, edit profile

Package tracking:

- Input: tracking ID
- Output: package information and map information
- Parent Dependency: main activity, package information and map information
- Child Dependency: main activity, package information and map information

Package information:

- Input: None
- Output: status of package
- Parent Dependency: Package tracking, map information
- Child Dependency: Package tracking, map information

Map information:

- Input: None
- Output: location and brief information on the map
- Parent Dependency: Package tracking, package information
- Child Dependency: Package tracking, package information

Edit profile :

- Input: Name, Gender, Date of Birth, Address, Email
- Output: None
- Parent Dependency: personal information
- Child Dependency: None

1.2 Top-down incremental testing

We followed top-down incremental testing in this project. We tested modules from “Start” to “Map information” following the control flow. Using top-down incremental testing allowed us to find the defects happening in the top of the application. This ensured the major components of our app could work well which helped us add new component and test the rest parts of the application easily.

2. Incremental Testing and Regression Testing

Module	Start Module		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Wrong reference path for index.js file in index.html	1	Using router to configure the default path to index.js. Make sure it send index.html as response
Regression Testing			
Defect #	Description	Severity	How to correct
1	After request has been parsed to “\”, it should be parsed again for future use.	2	Add routing within index.js. Using app.get() to handle incoming requests.

Module	Tracking without login:		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Any input can be entered as tracking number	1	Check the validation of tracking number. If the tracking number is invalid, a message will be shown
Regression Testing			
Defect #	Description	Severity	How to correct
1	The response of this action does not differ between login and not login	2	When user logs in, the message will be sent to the server so that different responses will be generated.

Module	Login activity		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Accept any input information as input for username or password which is potential risk of stack overflow	1	Check input of both username and password. User will be noticed if input has wrong format. And that information will not be sent

Regression Testing			
Defect #	Description	Severity	How to correct
1	After login, the page does not go back to searching page in order to tracking package info.	2	After login successfully, there will be a transfer page shows login in works. And then, server will redirect the page to index page.

Module	Forget password		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Can't verify if the user is the owner of this account	1	When user sign in, the user has to provide an email account in order to change password.
Regression Testing			
Defect #	Description	Severity	How to correct
1	May get attacked by huge amount of wrong input to slow server response time	2	The account will be suspended if server receives many wrong inputs at short amount of time.

Module	Map information
Incremental Testing	

Defect #	Description	Severity	How to correct
1	Satellite map mode doesn't show location and road information	1	Assign satellite map to the same group layer with normal map.
2	Some map gadgets get curtailed	2	Change round radius of map container
3	There is blank space underneath the map layer if browser height is really large	2	Change map layer width to 100vh to make sure the map was always at full width
4	Map information is displayed in Chinese	1	Change gl property of api url to make it english by default
5	Pop up window doesn't open even clicking really close to the location marker	1	Increase popupAnchor so clicking on location marker is easier to detect now
6	Unwanted coordinates pops up upon being touched	2	Disable Popup onMapClick unless a location marker is clicked.
Regression Testing			
Defect #	Description	Severity	How to correct
1	Assigning satellite map to the same group layer in module "Map Display" causes map	1	After researching, I changed map mode to "hybird", which is actually the desired map mode.

	to freeze upon interaction		
2	Moving folders causes the icon of layer control disappears	1	Change the relative path in css file

Module	Signup activity		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Accept any input information as input for username or password which is potential risk of stack overflow	1	Check input of both username and password. User will be noticed if input has wrong format. And that information will not be sent
Regression Testing			
Defect #	Description	Severity	How to correct
1	After signup, the page does not go back to searching page in order to tracking package info.	2	After signup successfully, there will be a transfer page shows signup successfully. And then, server will redirect the page to index page.

Module	Personal Information		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Information is too long to be displayed	1	Make a word limit and format check when creating an account
Regression Testing			
Defect #	Description	Severity	How to correct
1	Not all information is loaded	2	Wait until all personal information is received, before compiling the template.

Module	Edit profile		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Can't verify if the user is the owner of this account	1	When user edits profile, the user has to provide an email account in order to edit user information.
Regression Testing			
Defect #	Description	Severity	How to correct

1	May get attacked by huge amount of wrong input to slow server response time	2	The account will be suspended if server receives many wrong inputs at short amount of time.
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Module	Logout		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	After clicking the logout, the user is still logged in after refreshing the page	2	Makes the logout function send out fail response if logout is failed
Regression Testing			
Defect #	Description	Severity	How to correct
1	After logout, the user's information is still visible on the page	2	Makes the page to re-render after user logout and clear all user's information

Module	Main activity
Incremental Testing	

Defect #	Description	Severity	How to correct
1	Map information does not display correctly	1	Location information stored in the JSON object passed to the package information was not directly readable for map module. Correct the location information in the json object in a way that is readable for the map module.
Regression Testing			
Defect #	Description	Severity	How to correct
No Defects			

Module	Package Information		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Map Information does not load on the same page	1	Add another button to open up another page for the map information to display
Regression Testing			
Defect #	Description	Severity	How to correct

1	Map information page does not display correctly as it requires new object containing location information to be passed to it	2	New object with location information of the package is passed to the map page
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Module	Package Tracking		
Incremental Testing			
Defect #	Description	Severity	How to correct
1	Accept any input information as input for tracking ID which could be in the wrong format and potentially break the API function and cause the website to not respond	1	Check input of tracking ID. User will be noticed if input has wrong format. And that information will not be sent
Regression Testing			
Defect #	Description	Severity	How to correct
1	The tracking ID input should not accept input in the wrong format	2	Website gives an alert and ask for the user to input again.