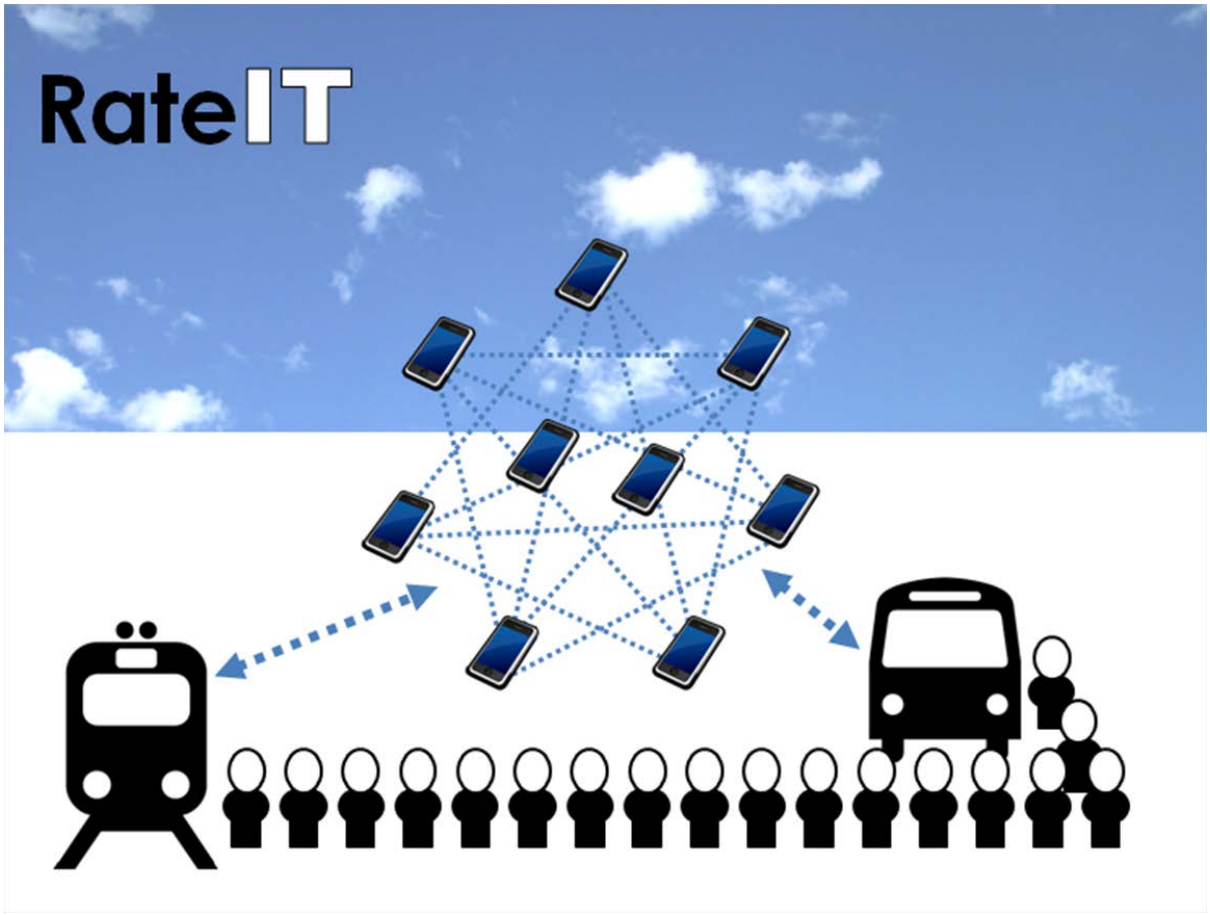


Assessing the functionality of RateIT passenger and operator interfaces against the original Functional Scope and requirements for Minimal Viable Product

This document has been updated to examine the progress of the RateIT passenger and operator interfaces against the specifications for the Functional Scope and Minimal Viable Product that were previously developed and provided to the IT development team.

The new content of this document commences at page 16. It has been prepared in preparation for finalising the deliver

Authors: Dr Claudine Moutou, Dr Thomas Longden and Li (Mavis) Ang

Date: 22 October 2014

Version 6.0

Contents

About the RateIT project

The RateIT project aims and objectives

The project aims to:

1. Design and develop an online app (compatible with Apple and Android devices) and that can be used to collect and disseminate crowdsourced passenger-to-passenger information in real-time
2. Design and develop the back-end systems that will enable transport operators to capture, interact and respond to real-time information provided by passengers about service quality and passenger experience

The RateIT project will contribute positively to the customer experience as it uses real-time crowd-sourced information to improve performance on service quality indicators. Subjective and objective data collected through RateIT will allow public transport operators to validate customer concerns so as to:

- increase responsiveness of public transport providers to customer concerns
- improve passenger experience and mitigate risks that reduce patronage.
- develop an evidence base to advocate on behalf of customers for land-use improvements
- provide opportunities for value added services e.g. booking additional pick-up service (bus or taxi) if late-running services will result in a number of passengers missing the same connection

This document outlines the Functional Scope of the RateIT app. It includes a description of the function, the type of information entered into RateIT as input, and the type of information coming out of RateIT as output.

About the organisation of the RateIT project

RateIT's project team consists of public transport specialists from the Institute of Transport & Logistics Studies and human interaction specialists from the School of IT working with a bus company industry partner, Forest Coach Lines. The strength of the RateIT project team is that it combines research, technology and operational knowledge to create a new space for information exchange about passenger views during their trip which over time will result in a longitudinal dataset to understand how to optimise passenger experience when patronage grows faster than the supply of public transport options.

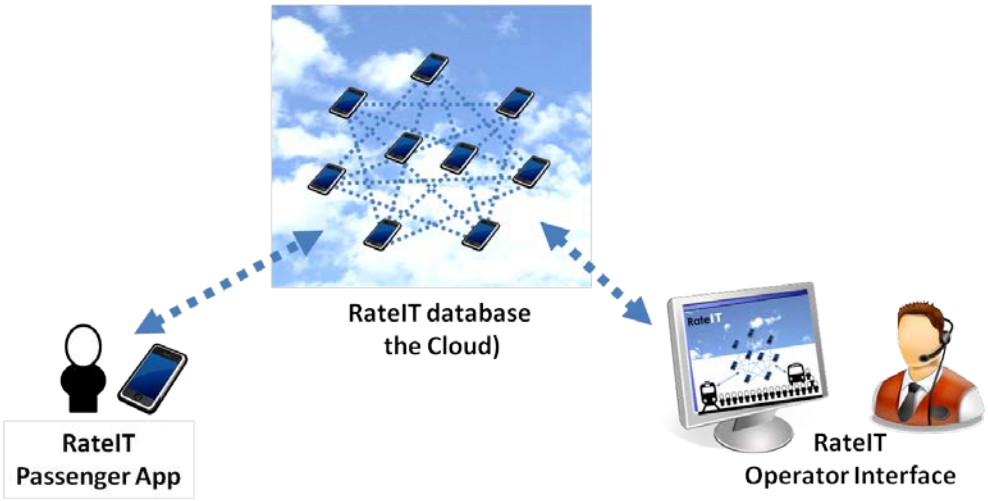


Figure 1: Components of RateIT (input and output)

The components of the RateIT project consist of three main elements (see Figure 1). At the user level the RateIT online app is used by passengers to receive and send data to the RateIT database. The RateIT database stored/accessed through the cloud/internet is the depository of all information which can be queried to provide information to the passenger through the app, or through the Operator Interface. The Rate IT operator interfaces are used by the Bus Operator (Forest Coach Lines) and the RateIT research team (ITLS, School of IT) to access reports or import/export data in the RateIT database. The Operator Interface is also the means that new content or functionality to the RateIT (online) app is updated.

How RateIT will be used

RateIT is designed to be used by passengers for various stages of their journey. Figure 2 illustrates the different stages as they relate to the journey to work. Passengers may interact with RateIT ahead of getting to the bus stop, at the bus stop, on-board the bus, at the destination stop, or on their way to the destination.

When a passenger is presented with the RateIT app they will see:

- pushed content organised like news alerting them to specific information or request for feedback
- menu items (icons) that allow them to instigate a function, such as checking vehicle type.

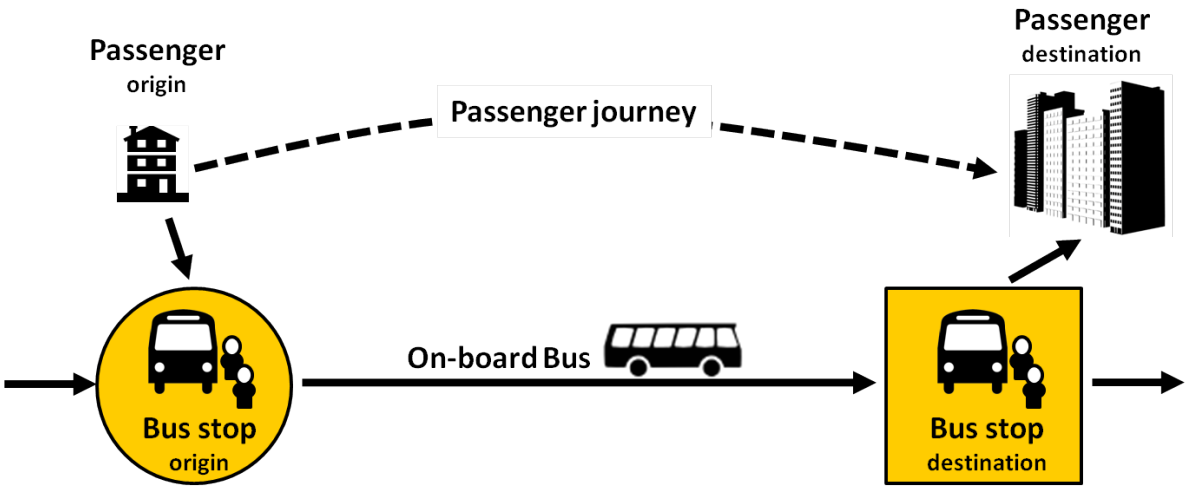


Figure 2: Process map of journey components (journey to work)

Types of data used by and generated by RateIT

The process map of journey components highlights some of the different types of data that need to be differentiated, and combined to provide meaningful data. Table 1 presents a list of different types of data that RateIT is likely to use. (Note, the list is a work in progress)

Table 1: Differentiating the types of data used within RateIT

Data	Description	Source
Bus Stop ID	Refers to the bus stop infrastructure ID that allows users to specify the location that they wish to board/disembark from a bus	TfNSW
Bus Route ID	Refers to the route that the bus is following.	TfNSW Bus operator
Bus Service ID	Refers to the timetable schedule that the bus is following. *Note: Not clear if this is different to the ID associated with each bus service in PTIPS.*	TfNSW Bus operator
Vehicle ID	Refers to the unique identifier of the vehicle that is displayed inside and on the bus. *Note: Not clear if this is different to the GPS ID associated with each bus vehicle and used in PTIPS.*	TfNSW Bus operator
Driver ID	Refers to the unique identifier that all authorised bus drivers display in the bus.	TfNSW Bus operator
Vehicle Info	Refers to vehicle specifications such as low-floor bus, double-decker / bendy / standard bus, air-conditioned. Vehicle Info linked to **Vehicle ID**.	Bus operator
Bus Service Info	Refers to data updated daily that identifies which **Vehicle ID** is used for each **Bus Service ID**.	Bus operator
Bus Driver Info	Refers to data updated daily that identifies which **Driver ID** is used for each **Bus Service ID**.	Bus operator
Bus Occupancy Info	Real-time data updated to show the estimated current level of occupancy on a bus. Data linked to **Bus Service Info** and real-time information collected through the RateIT app from passengers.	RateIT (real-time)
Passenger ID	Unique identifier for passengers using RateIT generated at registration.	RateIT database
Passenger Info	Data record of activity associated with **Passenger ID**. Queries to the RateIT database can pull down passenger preferences and certain statistics of past activity and ratings on service quality indicators.	RateIT database
Service Quality Scores	Data record of activity associated with different measures of service quality such as: punctuality rate, crowding, cleanliness linked to **Bus Service ID**.	RateIT database
Bus Service Score	Date specific **Service Quality Scores** associated with a **Bus Service ID**.	RateIT database
Bus Stop Scores	Data record of different measures of service quality such as: punctuality rate, crowding, cleanliness linked to **Bus Service ID**.	RateIT database

Description of proposed RateIT functions

Some example functions that RateIT could offer passengers are listed in Table 2. A survey of Forest Coach bus passengers is scheduled to take place which will help to identify which functions are of greatest importance and more greatly valued by passengers.

Table 2: List of RateIT functions (not in order of priority)

Function		Description	Input required	Output provided
1	**Check vehicle type**	Passengers select their bus service (route and time) and can see characteristics of the bus (for e.g. low-floor bus, double-decker / bendy / standard bus, air-conditioned, etc).	• PTIPS information showing timetable information • Dataset of Bus Operator vehicles and their specifications • Daily update from Bus Operator about allocation of vehicle on services	• Presentation of information to passenger that is easy to read and sort
2	**Vehicle preferences**	Passengers can store the characteristics of the bus (for e.g. low-floor bus, double-decker/bendy/standard bus, air-conditioned, etc) that they prefer	• Dataset of Bus Operator vehicles and their specifications • Short form that passengers complete to indicate their preferences	• Information about the passenger preference stored against the passenger user account • Updates to the passenger vehicle preferences stored as a separate time stamped log • Highlighting of services that meet the passenger's vehicle preferences • RateIT database updated with information about the vehicle preferences of passengers
3	**Waiting for bus**	Passengers can identify the bus stop or bus service that they are waiting for. *Supplementary features could include passengers guessing how long they will have to wait, and then comparing this to when the bus arrives. Data stored in RateIT database*	• Bus Stop ID • Bus Service ID • Button to indicate passenger is waiting • *Timer dial for passenger to indicate their guess of waiting time* • *Passenger's statistics for past guesses of waiting time*	• Count of passengers waiting at Bus Stop ID and for Bus Service ID • Counts stored in RateIT database • Automated feedback counting down the bus arrival • Real-time updates about the Bus Service ID • *Passenger gets a score for the accuracy of their waiting time, which is stored against their profile.*

Function		Description	Input required	Output provided
4	**On-board bus**	Passengers log their presence on a bus service	• Bus Service ID • Button to indicate passenger is aboard	• Count of passengers on board added to real-time Bus Occupancy Info • Bus Occupancy Info stored in RateIT database and available
5	**On-board experience**	Passengers can provide feedback about the on-board bus experience.	• Bus Service ID • Simple survey questions for passengers to provide comment on: o how full the bus is (scale from empty to full) o seated or standing o bus cleanliness o safety	• Survey responses stored in RateIT database against Passenger ID • Responses added to Service Quality Scores for Bus Service ID
6	**Rate trip**	Similar to on-board experience but allows passengers to rate qualitative measures of their journey.	• Bus Service ID • Simple survey questions for passengers, for example: o did you arrive on-time to your destination o how did the bus trip contribute to your journey (calming / stressful, positively / negatively)	• Survey responses stored in RateIT database against Passenger ID • Responses added to Service Quality Scores for Bus Service ID
7	**Rate driver**	Passengers can provide feedback about the performance of the bus driver.	• Bus Service ID • Simple survey questions for passengers to provide comment on: o Driving quality (rough or smooth) o Communication skills (scale: poor to excellent)	• Survey responses stored in RateIT database against Passenger ID • Responses added to Service Quality Scores

Function		Description	Input required	Output provided
8	**Check service quality score**	Passengers can see how a bus service or route has performed in the past. Distinguish made between current score of a service and historical performance. f a specified bus service or bus route. Queries to the RateIT database can pull down Amalgamated service quality indicators organised by time to differentiate between historical performance, performance by time-of-day and current performance.	• Bus Route ID • Bus Service ID • Bus Service Score • List of available Service Quality Scores (e.g. punctuality rate, crowding, cleanliness) • Query parameters (current, weekday, monthly, etc)	• Service Quality Scores stored in RateIT database
9	**Rate infrastructure**	Passengers can score the quality of the bus stop infrastructure, and alert Bus Operator to issues	• Bus Stop ID • Simple survey questions for passengers to provide comment on: o available seating o appropriate signage o opinion on shelter o cleanliness / upkeep of bus stop infrastructure o issues with lighting, tripping hazards, feelings of safety	• Survey responses stored in RateIT database against Passenger ID • Responses added to Service Quality Scores for Bus Stop ID that can be used to engage the relevant local government authority
10	**Alert incident**	Passengers can initiate an alert to inform other passengers and operator of an issue. (e.g. traffic incident, sick passenger, anti-social behaviour amongst passengers, lost item)	• Bus Service ID • Bus Stop ID • Simple form to indicate incident type • Simple form to indicate assessment (e.g. traffic incident location, severity)	• Notification of incident report sent to Bus Operator • Data validation rules applied in RateIT database (e.g. referencing Passenger ID to check they have not been flagged as providing false incident alerts) before posted on RateIT for other passengers to see and validate.

Types of data required within the database and the operational interface

Some example functions that RateIT database needs to offer operators and the RateIT research team are listed in Table 3. These data are separated into 'User and session information' to indicate standard data that could be used to identify different records and track the same user use of RateIT over time. The second category of 'Trip and location information' focuses on identifying different journeys taken by users which can help in analysing their trip behaviour, incidents on the same route, and location specific information.

Table 3: Important data for the operator interface and database

	Important data for the operator interface and database	Information Source	Link to Table 1	Filter
User and session information	Passenger ID	RateIT database	Yes	
	User name	User		
	Time and date logged in	Registered by app		
	Time and date logged out	Registered by app		
	Time and date page submitted	Registered by app		
Trip and location information	Bus route	User		
	Bus route ID	TfNSW	Yes	
	Bus stop where journey commenced	User		Dependent upon Bus route
	Bus stop ID	TfNSW	Yes	
	Time when boarded the bus	User		
	Location of incident	User		Dependent upon Bus route
	On-board bus or other part of journey (e.g. at bus stop)	User		
	Submitting after the incident	User		
	Geographical location of use of RateIT	User		Dependent upon Bus route and on/off bus

Process map of trip and location information

Collecting the users' trip and location information will be an important attribute of RateIT because some of the incidents that they report on may happen during the journey. For e.g. reporting that the bus has got full during the journey requires information about what part of the bus route this has occurred.

Figure 3 provides an example of dynamic questions, organised as a hierarchy that can be utilised to accurately identify a user's location during their trip.

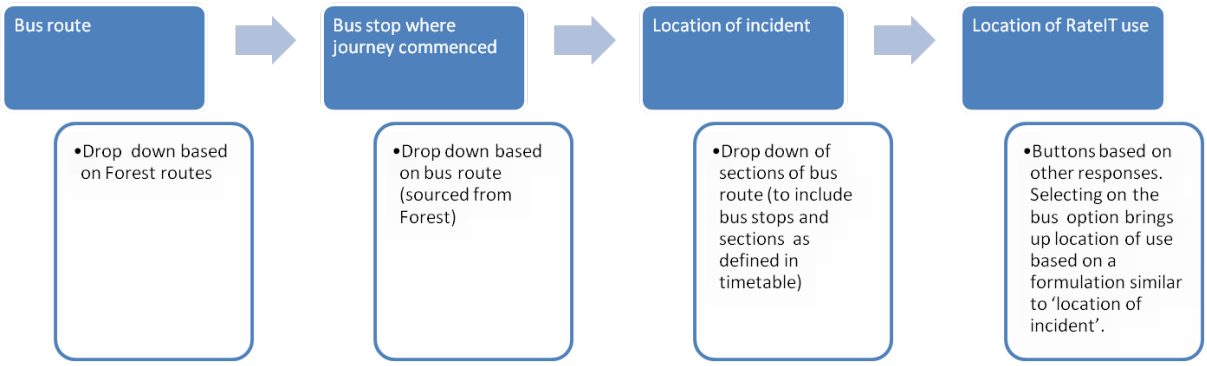


Figure 3: Process map of trip and location information

Minimal Viable Product (MVP)

When considering the minimal viable product (MVP) we have taken into account the three user groups:

- RateIT research team
- The bus operator (Forest Coach Lines)
- The passengers

In the MVP we require:

- All user groups to have a minimum level of functionality so that they can interact with each other, and therefore demonstrate the value of these real-time interactions.
- Function for passengers to:
    - View ratings
    - Rate their trip
    - View alerts

The top-level information needed for any of these functions is to define what bus the passenger is viewing or reporting on. Choice of actions are view, rate, alert.

Figure 4: Mash-up of user interface home

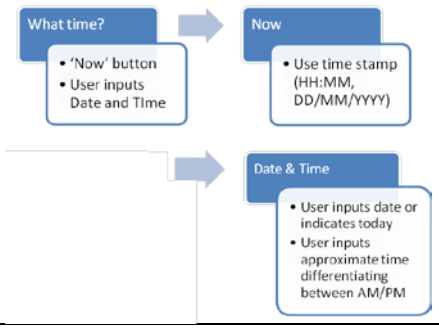
In the MVP we will limit our expectations to those functions/content related to:

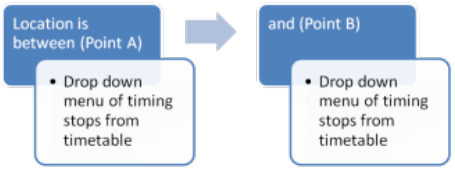
- the on-board experience part of the journey (see Figure 2). Functions related to bus stop infrastructure, or other parts of the passenger journey can be the focus of future versions.

- the topic matter of crowding
- variations of functions 5, 6, 8 and 10 that were previously described in Table 2.

To assist in the preparation of list that will be used to determine the acceptance tests these functions have been broken down into more detailed descriptions in the following tables. Table 4 presents the web app interface used by passengers.

Table 4: Functions in the web app interface used by passengers

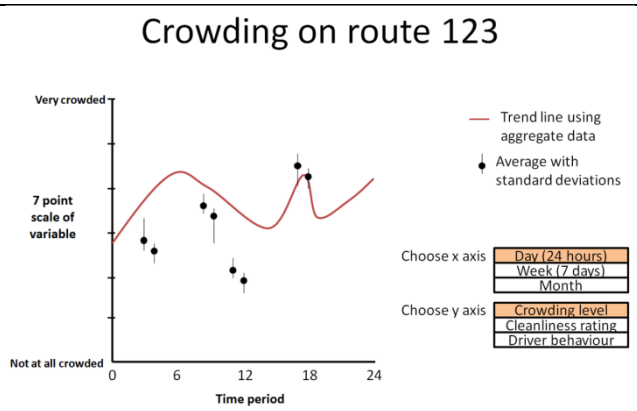
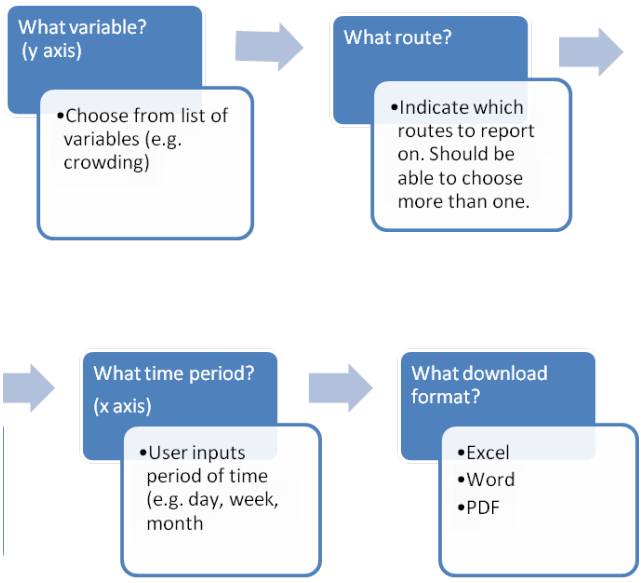
Function	Description	User input (instruction and data type)
About RateIT	Launches page with information about RateIT. It includes content that can be expanded to see the ethics information, and contact details.	Static content organised under collapsing/expanding subheadings.
Register user	Launches RateIT registration survey for new users. Registration survey is used as a baseline measure for user. **Note: links to create survey function in the researcher/operator interface**	User inputs responses through a combination of drop-down menus, sliding scale or radio buttons (one choice and multiple choice). Avoid use of text boxes except for name, email and password.
Login user	Existing users enter their username (email) and password.	
News feed	Area of interface that shows current alerts, and pushed content that has been tagged in the researcher/operator interface.	
Choose a bus	Important information captured from user that allows report to be tagged to **Bus Route ID.**	
Specify time	Important information captured from user to identify if the report relates to now, or a past event. Used in RateIT, and 'Create Alert'	

Specify location	Secondary information captured from user that indicates which segment of trip (Point A, Point B) a report relates to. Used in 'Create Alert' function.	
Update subheading menu	Info from 'choose bus' function to be updated in subheading menu so that user knows which bus they are receiving, or giving information about.	
Look up rating	Aggregate data for current Bus Route ID presented as an indicator on different topics.	First topic: crowding related
Rate trip	Action that launches a set of survey questions that links to the current trip. Survey questions are organised by topic and need to be grouped accordingly. Note: Survey questions are created through the researcher/operator interface.	First topic: crowding related Second topic: bus type
Create alert	Action that launches a new form/page that collects information on type of incident. Note: MVP alert only gets sent to operator and researcher, not other passengers.	First topic: crowding related Second topic: cleanliness
Rate agreement	Action that launches a survey question that captures if passenger agrees with an alert.	First topic: crowding related Second topic: cleanliness

The operator interface needs to help manage and respond to issues in a timely manner. In most cases the information needs to be at the aggregate level, but with the option of drilling down when required. Issues arising are highlighted in the alerts being sent by passengers. Much of the functionality of the RateIT operator interface is to be able to review and evaluate performance against past trends. These functions unique to the operator interface are shown in Table 5.

Table 5: Functions required in the operator interface

Function	Description	User input (instruction and data type)

Show aggregate data as a visualisation	Visualisation gives operator an overview of how a variable is rating at the moment and how it compares to past trends. Visualisation can be changed to show a specific route AND a specific variable (e.g. crowding on route 123). Visualisation to show different timeframes on x axis. E.g. 24 hour, 7 day week, month.	 User can choose from a set list of variables for the x and y axis. Red line represents a trend line of aggregate data from past reports for the same scale over the same period of time. Black markers are average for that hour period, with the vertical line representing the standard deviation.
Query, report and download	Operator can chose from a set of predefined variables a report that want to download for a specific timeframe (e.g. weekly report on crowding on bus routes). Download formats for e.g. to include Excel, Word and PDF.	
Save queries	Operator can save common queries for reuse.	

There are functions that are common to both the operator and the researcher. These are shown in Table 6.

Table 6: Functions required in BOTH the operator and researcher interface

Function	Description	User input (instruction and data type)
Push content to passengers	Operator and researcher can push content to passengers which appears in the newsfeed of passenger interface. Content is categorised by topic. Rules set for who	

	receives pushed content, and rules for when shown (e.g. show next time user logs in, or remove after dd/mm/yyyy).	
View log of alerts (history)	Researcher and operator able to view a summary of alerts made, categorised by variable (topic, date, response)	
Respond to alerts	Operator and researcher able to provide feedback on an alert.	
Verification	Opportunity to tag issue reported by user as true / false. Function to exclude false reports from aggregate data.	

The researcher needs to have administrative level access, which includes the opportunity to give permissions to other users. The functions important to the researcher in the MVP are presented in

Table 7.

Table 7: Functions required in the researcher interface

Function	Description	User input (instruction and data type)
Specify a survey question	Researcher can construct a survey question or use a previously saved survey question. Information required: • topic (the variable) • question type (e.g. sliding scale, multiple choice) • rules for when to display • audience targeted	
Store survey questions	Library of previously saved survey questions, with details such as variables, and dates used saved.	
Classifying users	Search and label users by a variable (e.g. demographic characteristics, routes travelled, how often they use RateIT	
Permissions setting	Researcher should have administrator access and be able to define permissions available to different users, and access to certain content.	
Modify visualisation settings	The design of any visualisations viewable in the operator interface should be able to be modified by the researcher (e.g. which variables to visualise, what timeframe should be on the x axis)	
Download function	Function to download specific data from the database. Format to be compatible with SPSS, e.g. CSV file.	

Assessing the first deployed product

The RateIT passenger and operator interface were presented to the RateIT team on the 24 September 2014. Issues about functionality were identified. In response this section of the document examines how the first deployed product produced by the RateIT IT development team meets the requirements in the User Acceptance Test document, and the Minimal Viable Product outlined earlier in this document.

Passenger interface : menu system

The menu system for the passenger interface has been limited to the header. While the ability to expand the menu is good as it resembles those in a smart phone application when viewed in a browser it pushes the content down.

We require navigational information to be clearer to the user, specifically the three key actions of view, rate and alert. Please refer to the mash up of the screen at Figure 4: Mash-up of user interface home for a visual of our expectation.

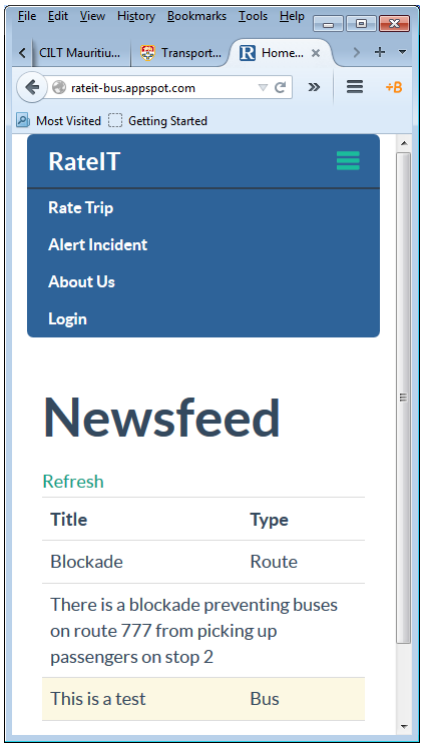
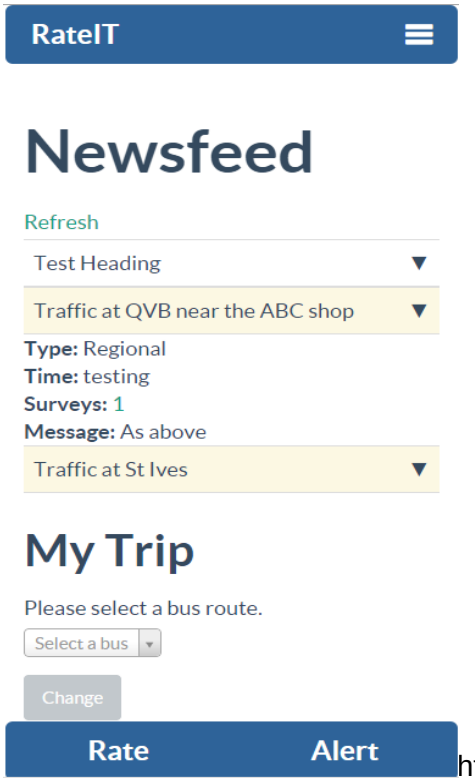


Figure 5: Menu system for Passenger interface

Passenger interface: home page

The Newsfeed is to viewed on the home screen but it is one object of information.



http://www.rateit.net.au/

Figure 6: Home page of RateIT passenger interface

The home page of the passenger interface should have additional content, not just the newsfeeds. Table 8 and Table 9 provide feedback on the home screen based on User Acceptance Tests and MVP.

Table 8: Assessment of Passenger interface home page against User Acceptance Tests document

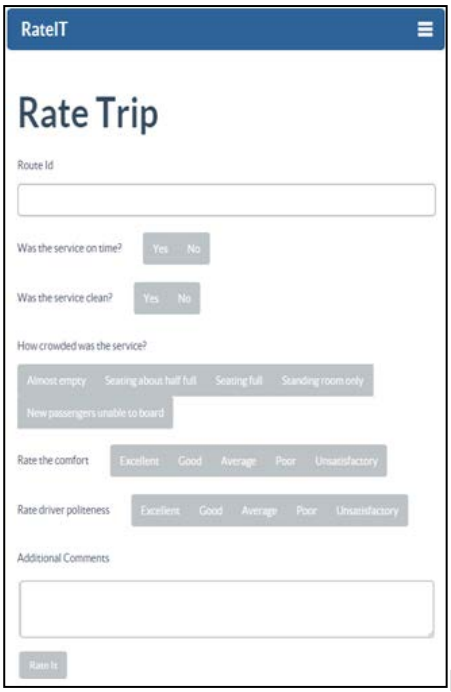
Criteria based on user acceptance test	Done	Comments
Passenger can see newsfeeds on home page	✓	
Passenger can expand each newsfeed item	✓	Formatting of the text and + symbol could aid the user in recognising that there is expandable information, and discern title and content.
Newsfeed items shown in whole	✓	
If there is a survey passenger has option to respond	✗	A link to survey questions could be put into newsfeed

Table 9: Assessment of Passenger Interface: Home against MVP

Criteria based on MVP		Comments
Area of interface shows the current alert	✓	
Area of interface shows the pushed content that has been tagged in the researcher/operator interface	✓	
Important information (i.e. bus route ID, the stop joint at and going to) captured from users that allows report to be tagged to **BUS ROUTE ID**	✓	
Important **time information** captured from users to identify the timing point of report	✘	'Date+Time Point' information are required
The bus route ID updates in subheading menu for users information	✓	The bus route information is there under 'My Trip' instead of in subheading

Passenger interface: Rate Trip function

The RateTrip function has been set up as a static webpage, not as a set of survey questions determined through the Researcher interface. Specific content for the survey questions is to be provided.



http://rateit-bus.appspot.com/ratetrip

Figure 7: Rate Trip page of RateIT passenger interface

Table 10: Assessment of Passenger interface Rate Trip against User Acceptance Tests document

Criteria based on acceptance test	Done	Comments
Passenger is logged in	✓	

Passenger is at rate trip screen	✓	
Passenger has filled in all mandatory fields	✘	Error messages not yet set up if passenger doesn't fill in all required fields.
Correct questions are displayed.	✓	The route information does not fill automatically
Passenger submits the rating.	✓	
Confirmation message of successful rating	✓	"Thank you for your feedback"
Rating is part of the database	✘	The individual rating is received and viewable in the Operator interface, but the information is not grouped with ratings on the same route.
Rating is reflected in all relevant information	N/A	Aggregated ratings are not yet set up.

Table 11: Assessment of Passenger interface Rate Trip against MVP

Criteria based on MVP	Done	Comments
Aggregate data for current Bus Route ID presented as an indicator on different topics	N/A	No aggregated data for test
Action that launches a set of survey questions that links to the current trip	✓	
Survey questions are organized and categorized by topic	✓	There is a bug in question display when there are more questions added

Passenger interface: Alert incident function

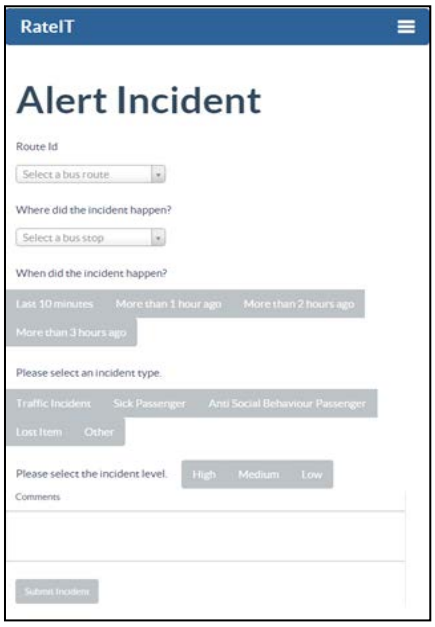


Figure 8: Alert Incident function of RateIT passenger interface

Table 12: Assessment of Passenger Incident Alert function against User Acceptance Tests document

Criteria based on user acceptance test	Done	Comments

Criteria	Passenger is logged in	✓	
	Passenger has a good standing profile	N/A	Passenger record database not set up yet, so cannot test
	Passenger is at submit alert screen	✓	This should work not just from the menu heading but also a button after they have identified route.
	Passenger has filled in all mandatory fields.	✘	No mandatory field has been set up
	Correct questions are displayed	✓	
Action	Passenger submits an incident alert	✓	
Result	Confirmation message that the incident alert is received.	✓	“Thank you for your feedback”
	Operators receive notification for the incident report.	✓	The alert is received and viewable in the Operator interface.

Table 13: Assessment of Passenger RateIT function against MVP

Criteria based on MVP	Done	Comments
Secondary information captured from user that indicates the **segment of trip** that relates to report	✓	Need to be clear what it is
Action that launches a new form/page that collects information on type of incident	✗	Bus route information does not automatically feed
Action that launches a survey questions that captures whether passenger agrees with an alert	N/A	No survey questions set up to allow passengers to indicate their level of agreement to an alert.

Passenger interface: About RateIT page

The detailed information about RateIT, including the ethics information should be available to passengers at anytime, and therefore having an About RateIT link is important. However on the first visit to the online RateIT app it is necessary for an explanation of the research project and a login to be available.

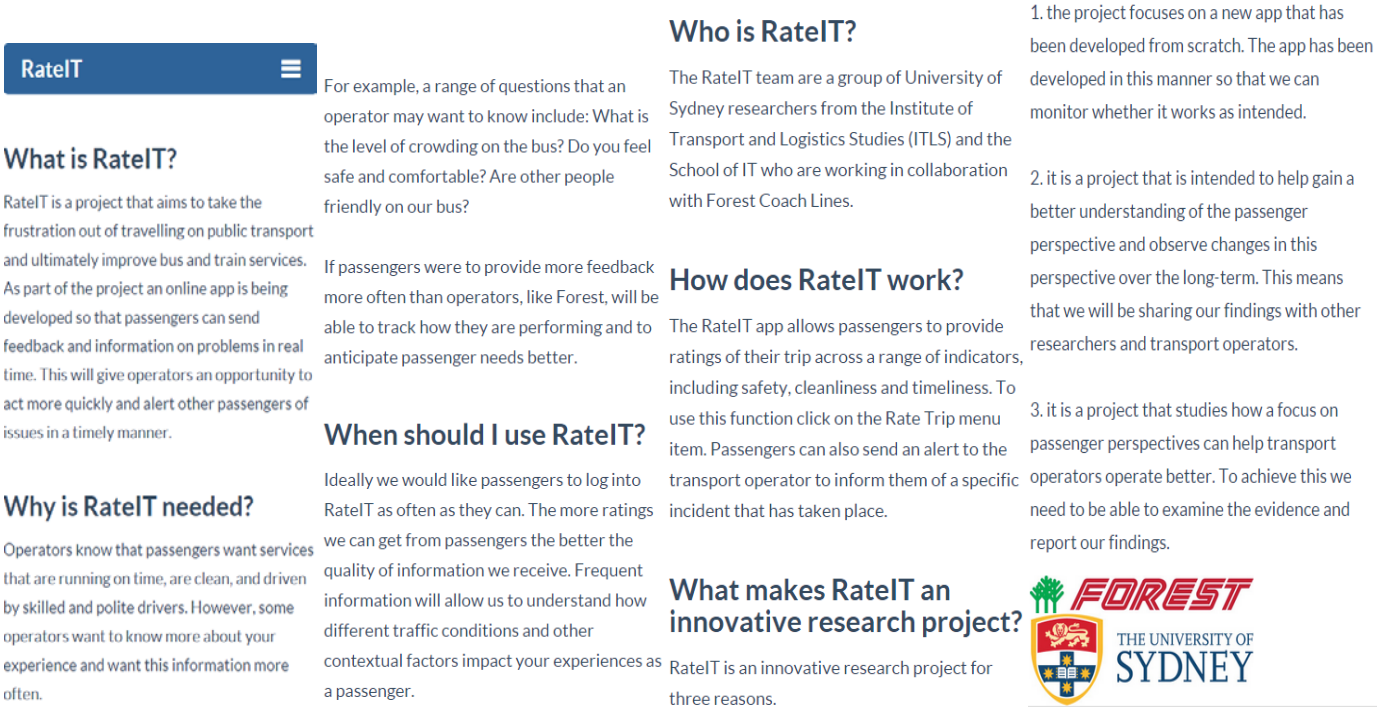


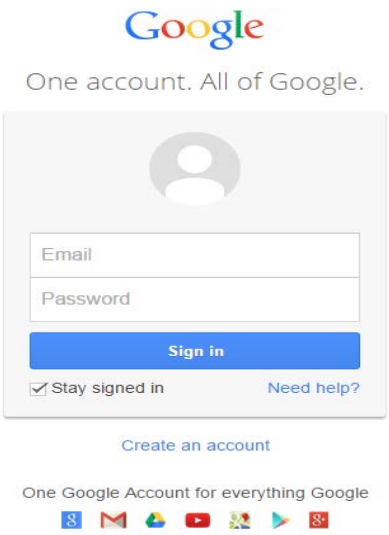
Figure 9: About RateIT page of Passenger Interface

There was nothing in the User Acceptance documents about the RateIT info requirements, but it was noted in the MVP. Specific content for this page which can be provided.

Criteria based on MVP	Done	Comments
Launches page with information about RateIT, it includes content that can be expanded to see the ethics information and contact details	✓	

Passenger interface : login

The login page should be displayed for any user that is not currently logged in. Ideally it should be one of the content objects of the home screen. Information about the login status should be visible in the menu, or near it.



https://accounts.google.com/ServiceLogin?sacu=1&continue=https%3A%2F%2Fappengine.google.com%2F_ah%2Fconflogin%3Fcontinue%3Dhttp%3A%2F%2Fwww.rateit.net.au%2Fregistration&hl=en&service=ah

Figure 10: Login page of RateIT Passenger Interface

Acceptance Test			
Test 1	**Initial Interaction**		**Comments**
Criteria	Passenger is not currently logged into RateIT system	✓	
Action	Passenger loads homepage to view the ratings	**N/A**	Homepage is loaded but no historical rating can be viewed
Result	Passenger login page should appear with a login prompt	✓	
Test 2	**Invalid Credentials**		**Comments**
Criteria	Passenger is currently at login page	✓	
Action	Passenger enters valid username or password	✓	
Result	An invalid login error occurs with the following message: "Invalid username or password. Please try again or contact your administrator"	✓	
Test 3	**Valid Credentials**		**Comments**
Criteria	Passenger is currently at login page	✓	
Action	Passenger enters valid username or password	✓	
Result	RateIT homepage is loaded	✓	

Operator interface – menu system

The operator interface is expected to be most often accessed on a desktop or laptop computer, and therefore the dimensions of the screen should be consistent for viewing in such an environment. The menu system for the operator interface is appropriate for this environment.

URL: http://rateit-bus.appspot.com/operator/

Operator interface – home

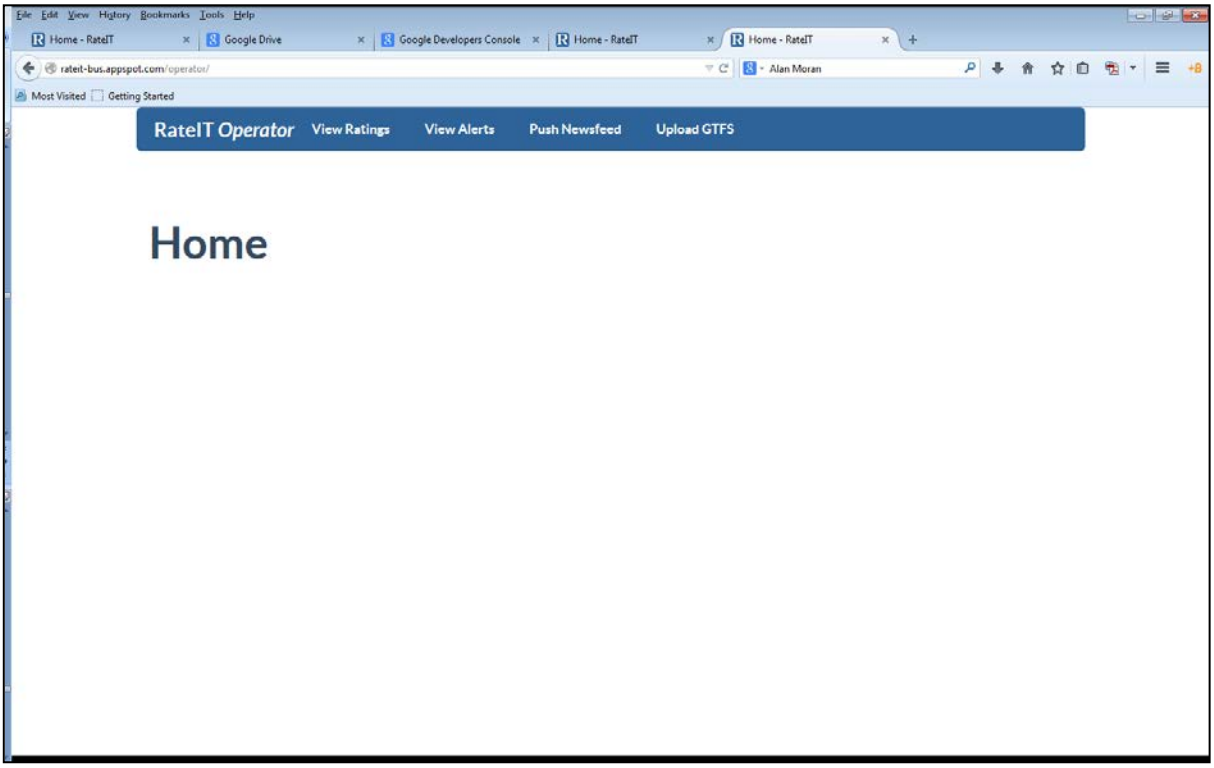


Figure 11: RateIT Operator interface home screen

The home page for the Operator Interface should include a login function, and information about the RateIT project (content to be supplied). Once logged in the home page would ideally provide operators with an overview of the ratings, and alerts.

N/A

Operator interface: View ratings

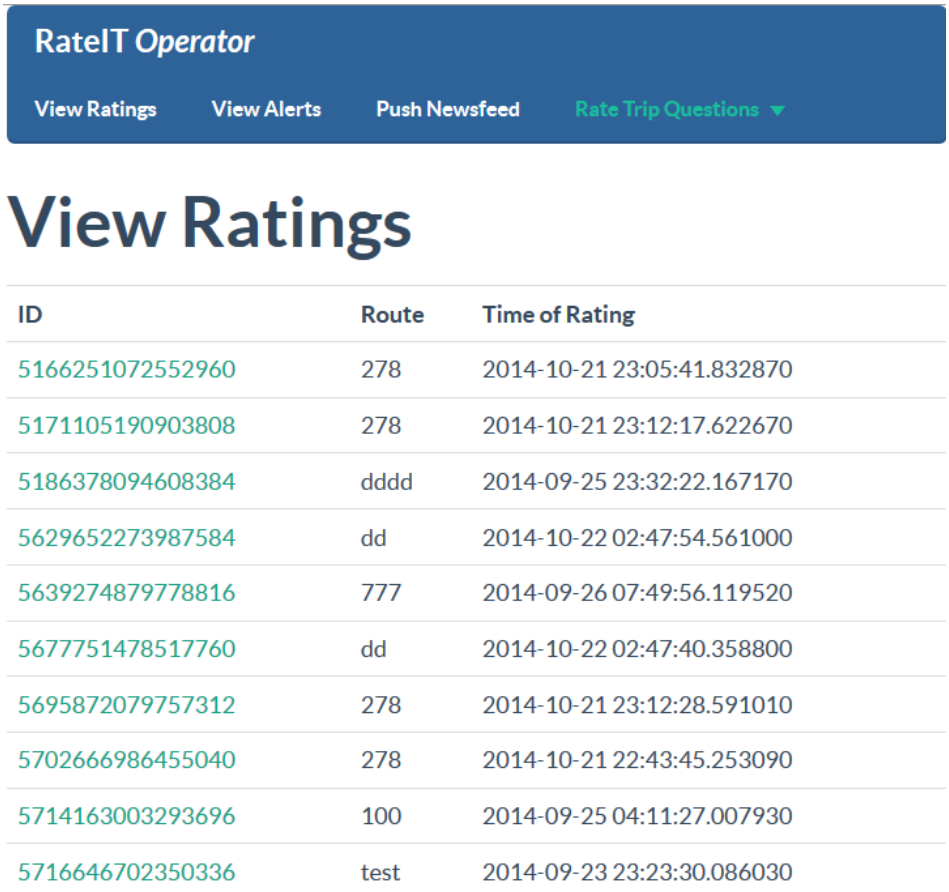


Figure 12: RateIT Operator Interface: View Ratings

The current View Ratings page shows only disaggregate data, rather than pulling in updated aggregate data that can be organised (displayed) by route, or date, etc. Details against the requirements previously agreed in the user acceptance and MVP are found in Table 14 and Table 15.

Table 14: Assessment of Operator Interface View Ratings against User Acceptance Tests document

Acceptance Test		
Test 1 Select preferred variables for the data to view	**Done**	**Comments**
Operator is logged in	✓	No login function
Operator is at Home Screen	✓	Cannot be tested
Operator selects View Aggregate Data	✓	No selection function
RateIT system displays a set of variables which allows operator to choose and indicate the data which will be displayed (Choose bus service IDs, time period, type of topics)	✘	Not functional
Two options provided (i.e. Data graph & report)	N/A	No graph format available

Test 2 View data graph	Done	Comments
Operator is at View Aggregate Data screen	✓	
Operator selected all the variables	N/A	Variables are not selectable
Operator choose View Data Graph	N/A	Not certain option could be chosen
RateIT system displays data graph with X axis (time period) and Y axis (variables), a trend line using aggregate data of past reports which scales in the same period of time	N/A	No graph format could be viewed
The average for that unit period is shown as black marker	N/A	No graph format could be viewed
Test 3 View data graph (invalid case)	**Done**	**Comments**
Operator is at view aggregate data screen	✓	
Operator did not select all the variables	N/A	Variables are not selectable
Operator choose view data graph	N/A	Not certain option could be chosen
RateIT system does not display data graph	N/A	No graph format could be viewed, so cannot test
RateIT system provides a message to remind operator to select all the variables	N/A	No graph format could be viewed, so cannot test
Test 4 View report	**Done**	**Comments**
Operator is at View Aggregate Data screen	✓	
Operator selected all the variables	N/A	Variables are not selectable
Operator chooses view report	N/A	Not certain option could be chosen
RateIT system displays report as a data table	✓	
Test 5 View report (invalid case)	**Done**	**Comments**
Operator is at View Aggregate Ddata screen	✓	
Operator did not select all the variables	N/A	Variables are not selectable
Operator chooses View report	N/A	Not certain option could be chosen
RateIT system does not display data graph	N/A	No graph format could be viewed, so cannot test
RateIT system provides a message to remind operator to select all the variables	N/A	No graph format could be viewed, so cannot test
Test 6 Download report		**Comments**

Operator is currently viewing a report	✓	
Operator selected a format(Excel, Word or PPT) of the report which will be downloaded	N/A	No certain option could be chosen
Operator chooses Download Report	N/A	The report is not downloadable
RateIT system downloads report on operator's local machine in the selected format	N/A	The report is not downloadable
Test 7 Download report (Invalid case)	**Done**	**Comments**
Operator is currently viewing a report	✓	
Operator did not select any format of the report which will be downloaded	N/A	No certain option could be chosen
Operator chooses Download Report	N/A	The report is not downloadable
RateIT system does not download report	N/A	The report is not downloadable, so cannot test
RateIT system provides a message to ask operator to select the format of the report to be downloaded	N/A	The report is not downloadable, so cannot test

Table 15: Assessment of Operator Interface View Ratings against MVP

Criteria based on MVP		Comments
Show aggregate data as a visualisation which could be changed to illustrate a specific route and a specific variable	✘	Data cannot be displayed in a graph format for visualisation purpose
Operator could download report with a set of predefined variables for a specific timeframe in different formats (i.e. Excel, Word and PDF)	✘	Report is not downloadable
Operator could save common queries for reuse	✘	Queries could not be saved

Operator interface: View alerts

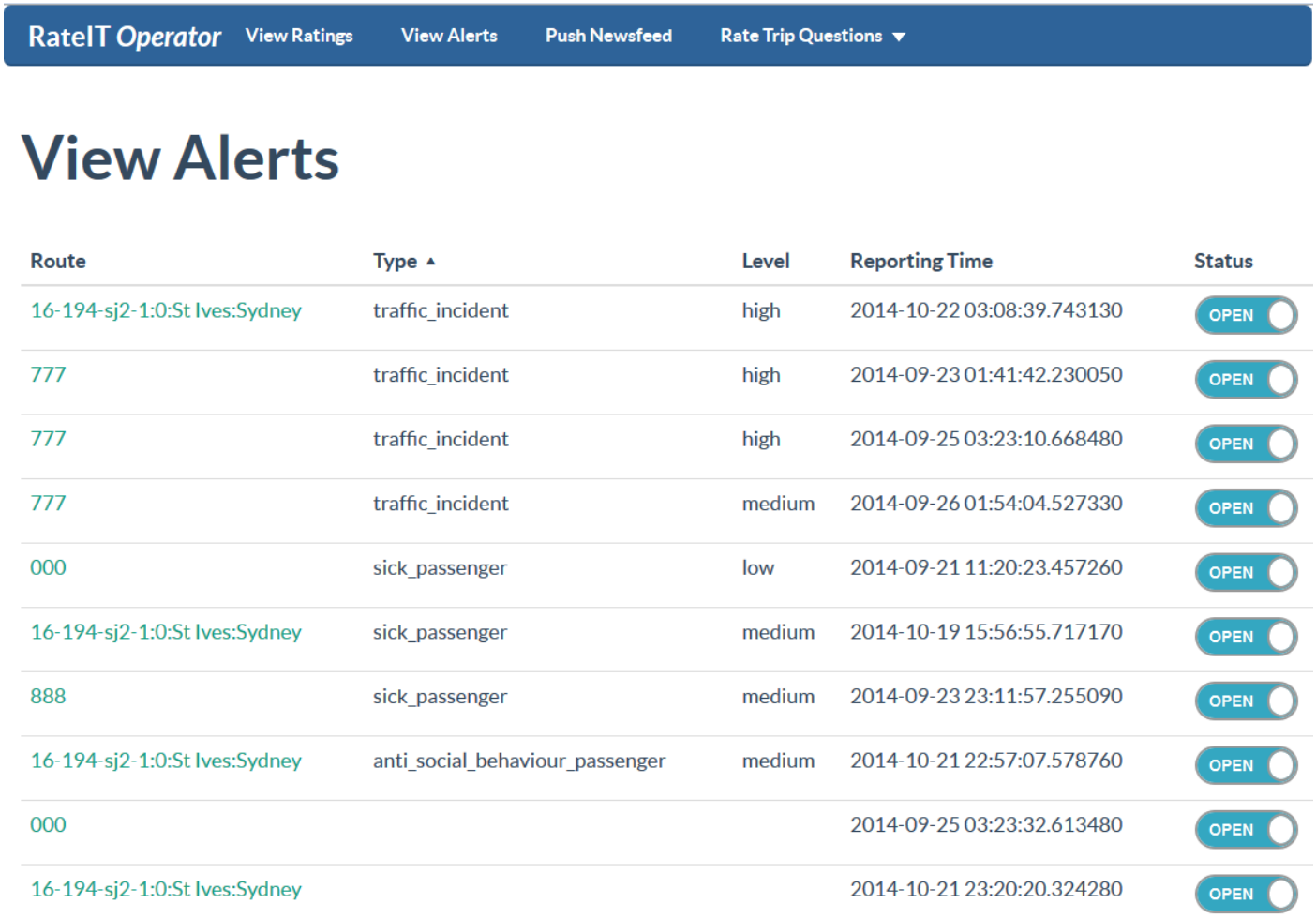


Figure 13: RateIT Operator Interface: View Alerts

Table 16: Assessment of Operator Interface View Alerts against User Acceptance Tests document

Acceptance Test		
Test 1 View a list of alerts	**Done**	**Comments**
Operator is logged in	✓	
Operator is at home screen	✓	
Operator select View Alerts Summary	✓	
A list of alerts displayed as a table with one row for each alert and one column for each variable (Date & Time, Bus route, Topic, State)	✓	Not at aggregate level and the route data is not clear
Alerts are categorized/ordered by date and time as default, with the most recent alert displayed on top.	✓	
Test 2 Category/Order alerts	**Done**	**Comments**

Operator is at View Alerts Summary Screen	✓	
Operator selects one of the variable columns (e.g. Date & Time, Bus Route, etc.)	✓	
Alerts are categorized/ordered by the selected variable column	✓	Cannot order by **status**
Test 3 View details of an alert	**Done**	**Comments**
Operator is at View Alerts Summary Screen	✓	
Operator select one row	✓	
A new screen displayed with all information related to the selected alert	✓	
Test 4 Update state of an alert	**Done**	**Comments**
Operator is at the details of alert screen	✓	
Operator selected a state for the current alert	✓	
Operator choose to update	✓	
The state of the current alert is updated	✘	But it keeps the default status (open) when refreshing

Table 17: Assessment of Operator Interface View Ratings against MVP

Criteria based on MVP	Done	Comments
Operator is able to view a summary of historical alerts, being categorized by variable.	✓	
Operator could response to alerts	✓	
Operator could verify the reported issues by tagging true or false	**N/A**	

Operator interface: Push newsfeed

Feedback on this aspect is required, and will be provided.

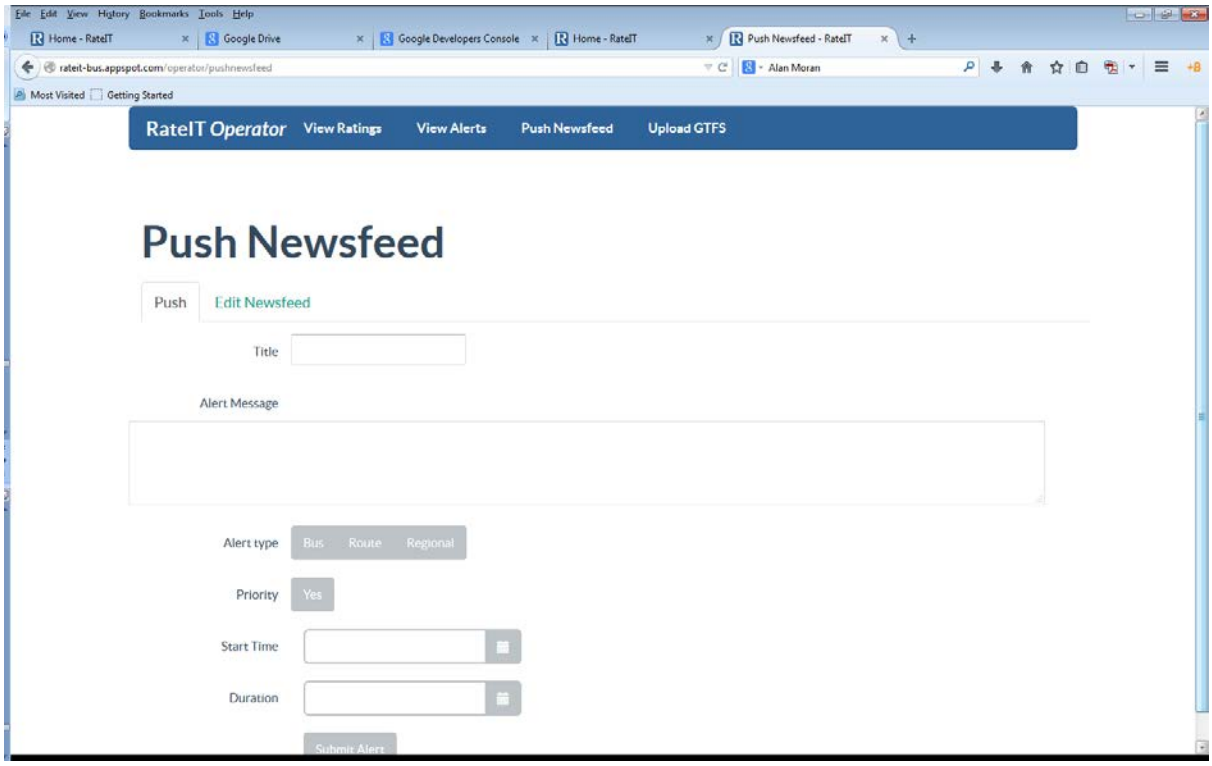


Figure 14: RateIT Operator Interface: Push Newsfeeds

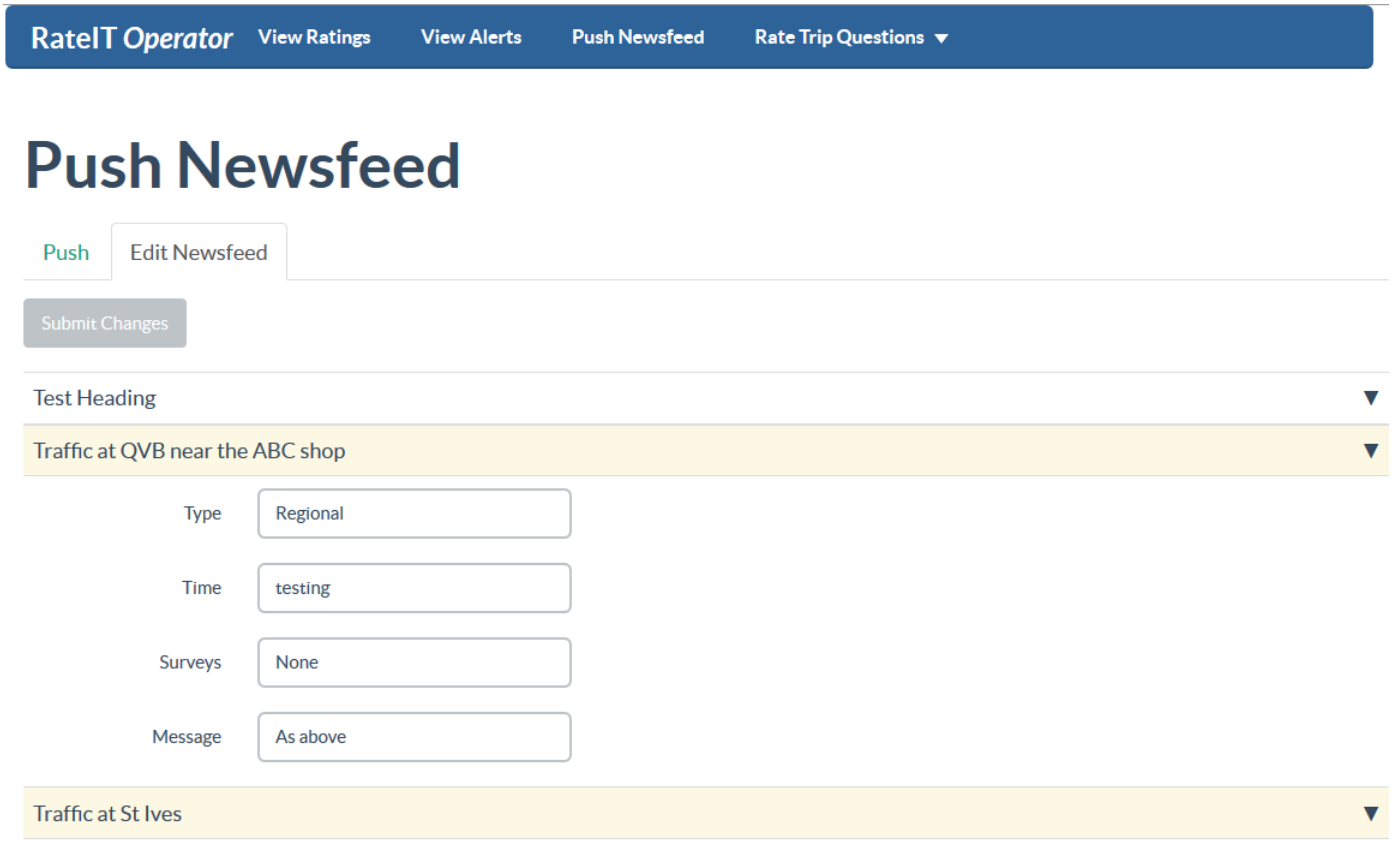


Figure 15: RateIT Operator Interface: Push Newsfeeds - edit newsfeed

Table 18: Assessment of Operator Interface Push Newsfeeds against User Acceptance Tests document

Criteria based on MVP		Comments
Operator could push newsfeed to passengers interface	✓	
Content is categorised by topic	✘	Content is not categorized
Rules are set for who receives and pushed content and when shown	N/A	

Researcher interface

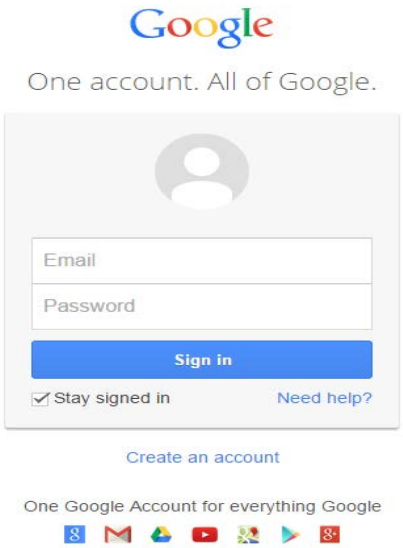


Figure 16: RateIT Researcher Interface: Researcher log in

Table 199: Assessment of Securely log in to the system as a researcher

Acceptance Test		
Test 1 Initial Interaction	**Done**	**Comments**
Researcher user is not currently logged into system	✓	
Researcher loads the research home page URL	✓	
Researcher login page should appear with a login prompt	✓	
Test 2 Invalid Credentials	**Done**	**Comments**
Researcher is currently at login page	✓	
Researcher enters invalid username and/or password	✓	
An invalid login error occurs with the following message:"Invalid username or password. Please try again or contact your administrator."	✓	

Test 3 Valid Credentials	Done	Comments
Researcher is currently at login page	✓	
Researcher enters valid credentials	✓	
Researcher home page is loaded	✓	

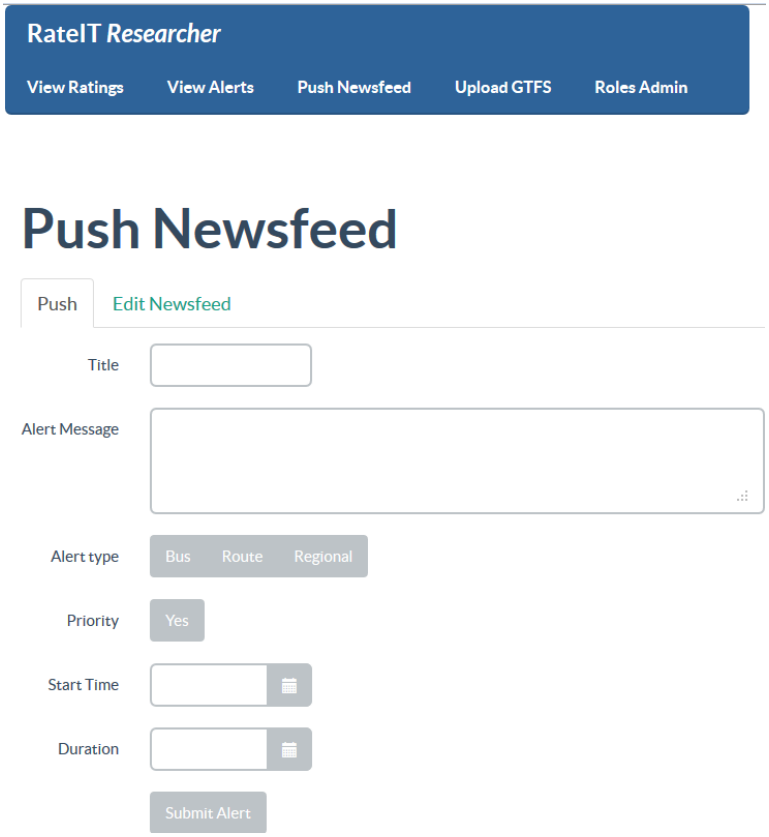


Figure 17: RateIT Researcher Interface: Push Newsfeeds - edit newsfeed

Table 20: Assessment of notifying passengers with newsfeed

Acceptance Test		
Test 1: Pushing content to passengers	**Done**	**Comments**
Researcher is logged in	✓	
Researcher is at the Push Content screen.	✓	
Researcher submits information with given rules below		
Passenger selection rule	N/A	
On next login by passenger	✓	
To be shown after a date and time	✓	

To stop being shown at a date and time	✓	
Researcher sees message confirming request has been entered	✓	
Content appears on passengers news feed according to selected rules.		
Only passengers satisfying passenger selection rule.	✘	Functionality for limiting content to select passengers not available.
News feed can be specified to be visible for specific date period or time	**N/A**	Not testable now
Test 2: Invalid content or rules selected	**Done**	**Comments**
Researcher is logged in	✓	
Researcher is at the Push Content screen	✓	
Researcher submits information with invalid set of rules or invalid content		
Invalid rules: past stop being shown date and time, passenger selection rule selects no passengers	✓	Some data checking of form exists, but a bit inconsistent.
Invalid content: No content, content too large, content contains invalid characters	✓	
Researcher sees message indicating submission failed and why and allows them to edit request	✘	The invalid newsfeed could be pushed for passengers

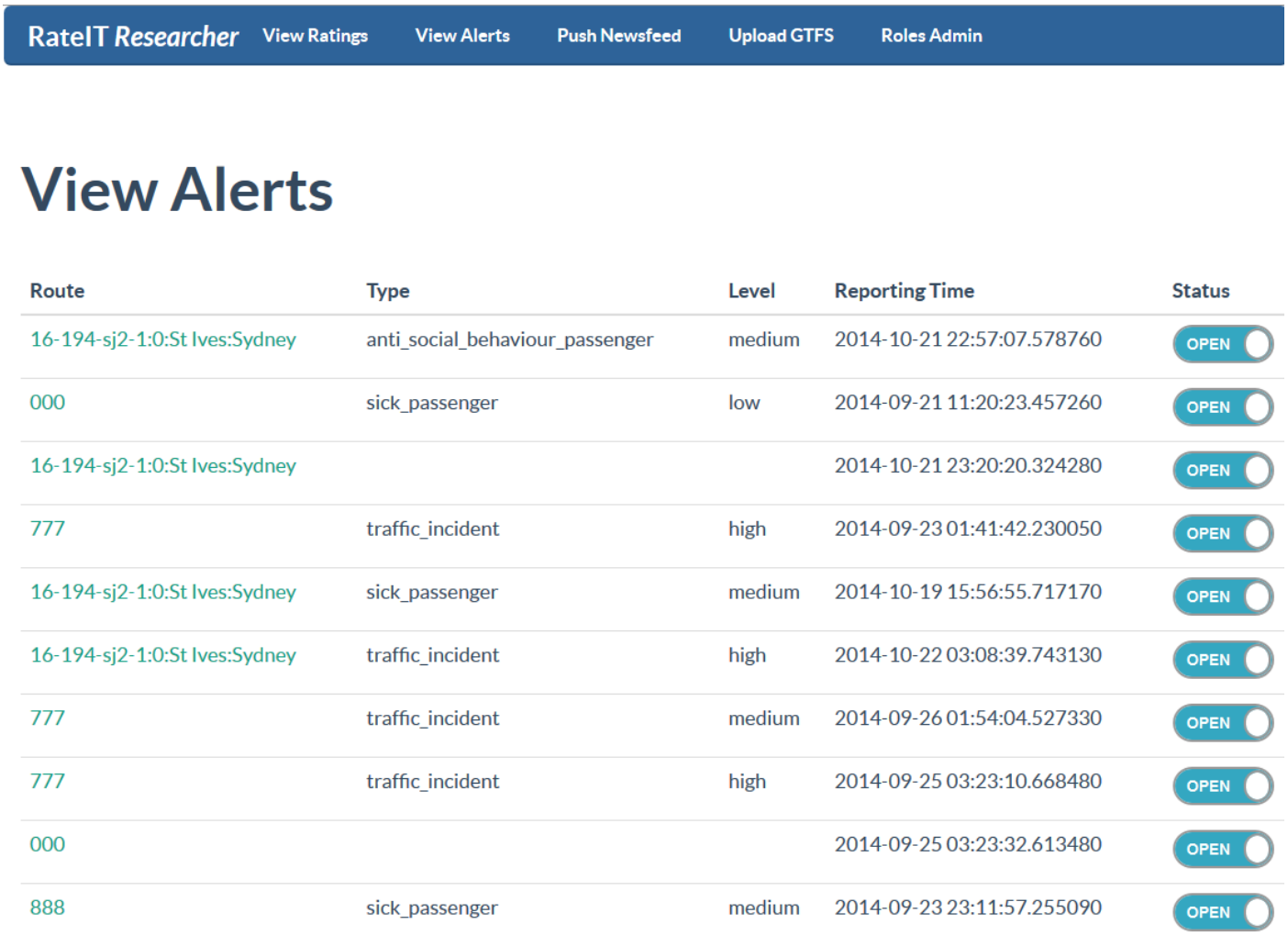


Figure 18: RateIT Researcher Interface: Viewing and responding to alerts

Table 21: Assessment of analysing alerts and responding to them

Acceptance Test		
Test 1: Viewing and ordering alerts	**Done**	**Comments**
Researcher is logged in.	✓	
Researcher is at the View Alerts screen containing a table of alerts with option to order them by various columns	✓	
Researcher clicks on column heading. e.g. Date.	✓	
Alerts view to be refreshed and reordered by chosen column (Date)	✓	
If the previously chosen column is the same as the clicked heading, the order will be shown in reverse	✓	
Test 2: Selecting alert to respond to	**Done**	**Comments**

Researcher is logged in	✓	
Researcher is at the View Alerts screen containing a table of alerts with option to order them by various columns	✓	
Researcher clicks on 'respond' link in alert row	N/A	But the response could be sent to passengers by pushing newsfeed
An alert response page appears	N/A	Not testable

Table 22: Assessment of verifying passenger alerts information

Acceptance Test		
Test 1: Marking issue as false	**Done**	**Comments**
Researcher is logged in.	✓	
Researcher is viewing an issue submitted by passenger	✓	
Researcher clicks button to tag issue as false	N/A	But the alerts could be closed
Researcher receives confirmation that issue is marked as false.	N/A	
Issue no longer shown with 'true issues'	N/A	

Table 23: Assessment of labelling passengers

Acceptance Test		
Test 1: Request to create new Label	**Done**	**Comments**
Researcher is logged in	✓	
Researcher is viewing Labels screen	N/A	
Researcher chooses to create new label	N/A	
An empty label edit screen is loaded	N/A	
Test 2: Testing Editing Label	**Done**	**Comments**
Researcher is logged in	✓	

Researcher is viewing the Label Edit screen	N/A	
Researcher edits query parameters and/or label name	N/A	
Researcher clicks test query button	N/A	
Query result shown and Researcher has options to submit or continue editing	N/A	
Test 3: Submitting edited Label	**Done**	**Comments**
Researcher is logged in		
Researcher is viewing the Label Edit screen	N/A	
Researcher edits query parameters and/or label name	N/A	
esearcher clicks submit label	N/A	
Researcher is redirected to Labels screen with new label shown	N/A	
Test 4: Deleting a Label	**Done**	**Comments**
Researcher is logged in	✓	
Researcher is viewing Labels screen	N/A	
Researcher selects to delete a label	N/A	
'Label deleted' text shown and 'undo' button	N/A	

Table 24: Assessment of downloading data from the database in CSV format

Acceptance Test		
Test 1: Downloading raw data	**Done**	**Comments**
Researcher is logged in.	✓	
Researcher is viewing the Raw Data Download screen	N/A	
Researcher selects to download data	N/A	
Zip file downloaded that includes all data in CSV format	N/A	

GTFS Management

This function is not something that is expected to be used often, and therefore it does not necessarily need to be at the menu level. It could sit under an Admin menu item where other admin issues, such as setting up new users could be located.

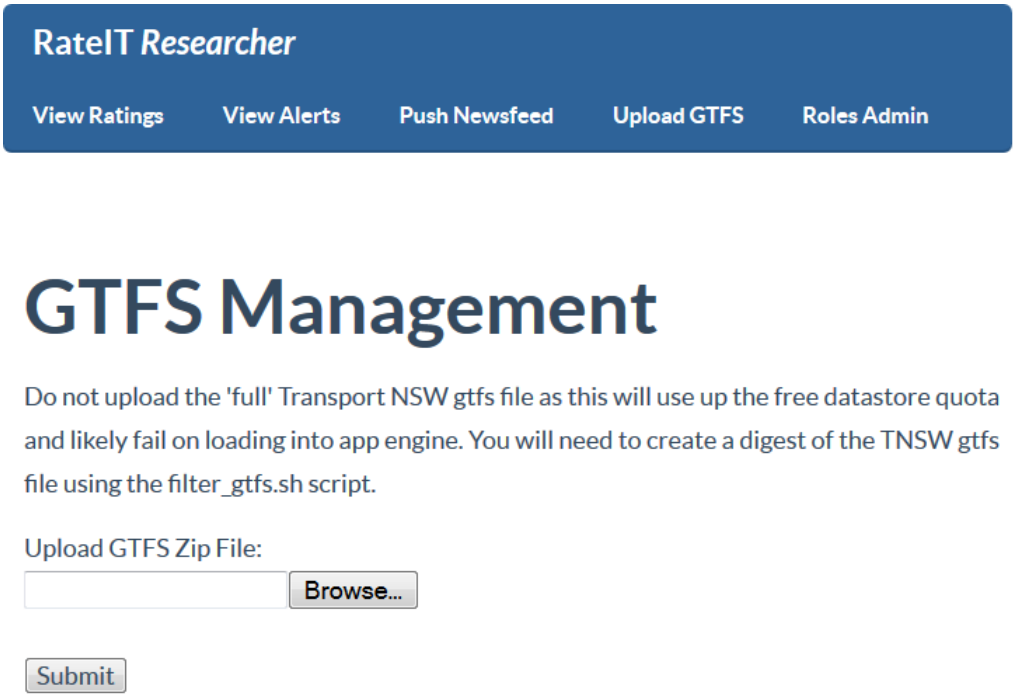


Figure 17: RateIT Researcher Interface: GTFS Management

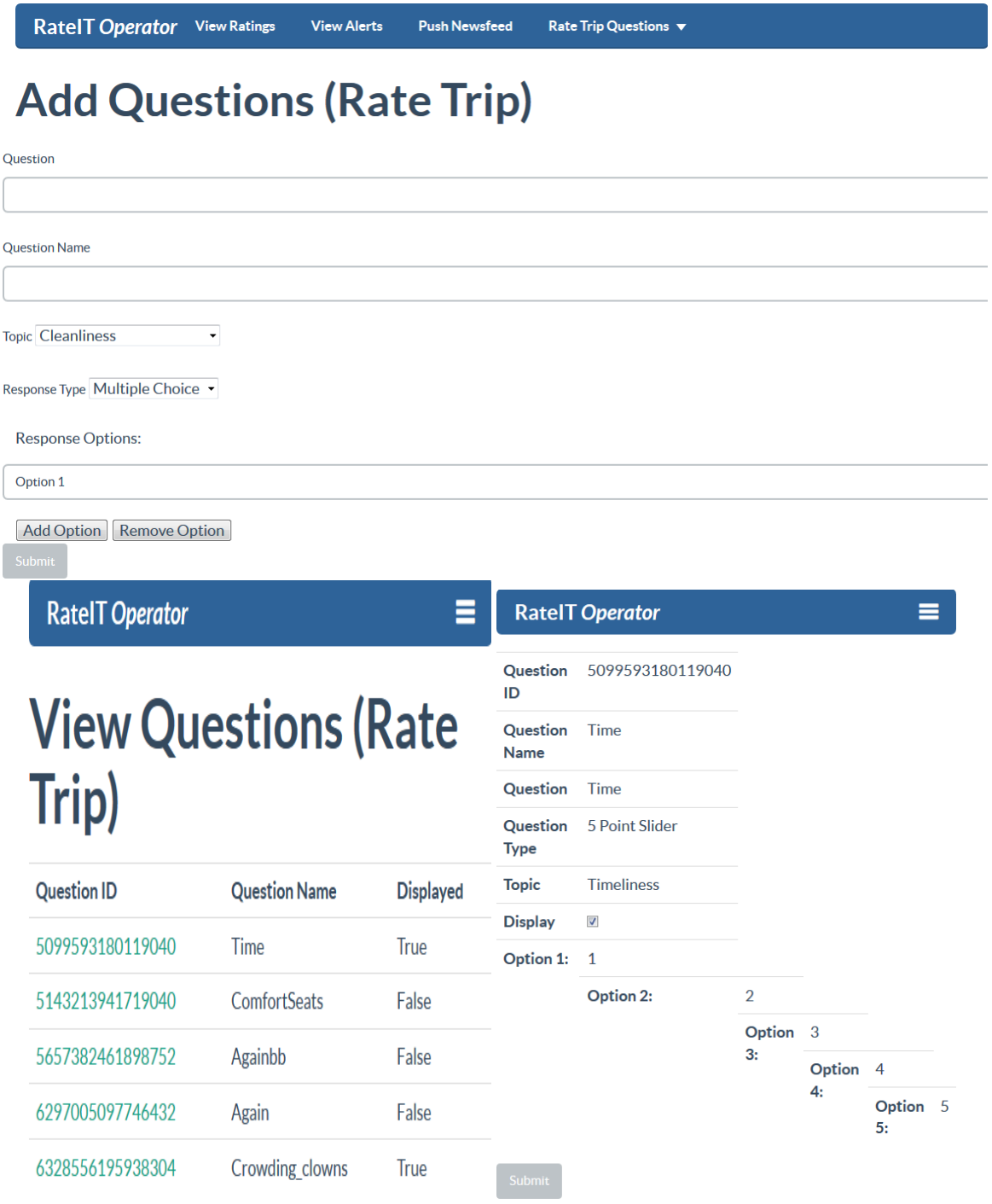


Figure 18: RateIT Researcher Interface: Survey questions added----COPY TO RESEARCHER INTERFACE

Table 25: Assessment of specifying survey questions

Acceptance Test		
Criteria based on MVP	**Done**	**Comments**
Researcher can construct a survey question or use a previously saved survey question. Informaiton required:		
topic (the variable)	✓	
question type (e.g. sliding scale, multiple choice)	✓	
rules for when to display	✗	

audience targeted	N/A	Not testable since no passenger labelling record
Library of previously saved survey questions, with details such as variables, and dates used saved.	✓	

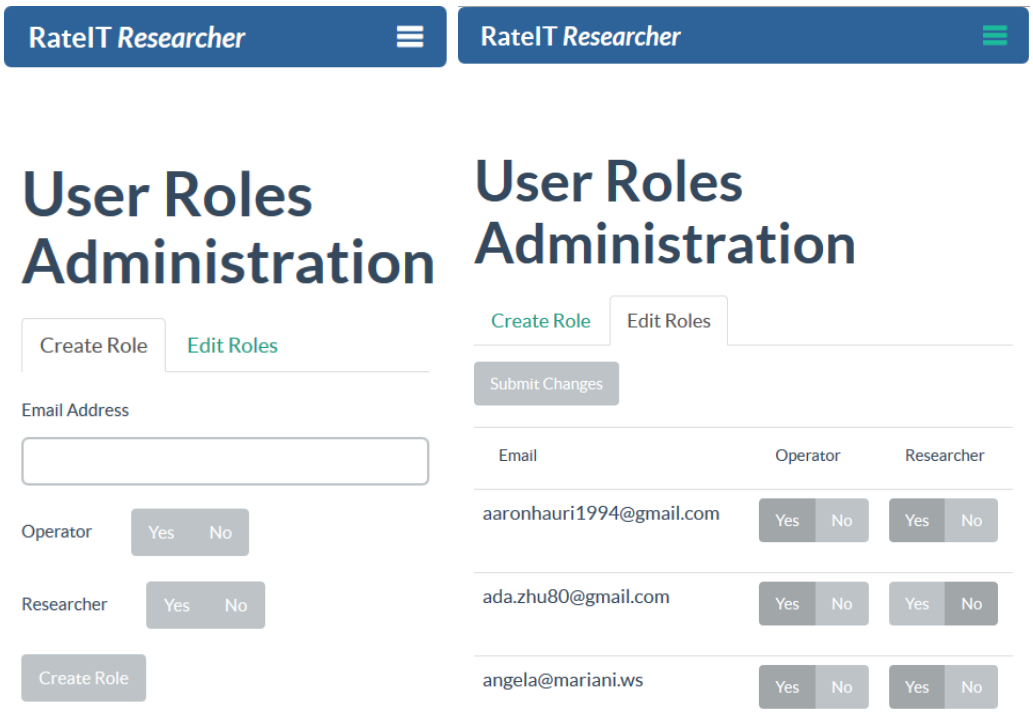


Figure 19: RateIT Researcher Interface: User role administration

Table 25: Assessment of specifying survey questions

Criteria based on MVP	Done	Comments
Researcher should have administrator access and be able to define permissions available to different users, and access to certain content.	✓	

Table 25: Assessment of other functions in MVP

Criteria based on MVP	Done	Comments
The design of any visualisations viewable in the operator interface should be able to be modified by the researcher (e.g. which variables to visualise, what timeframe should be on the x axis)	N/A	No other format available
Function to download specific data from the database. Format to be compatible with SPSS, e.g. CSV file	N/A	No data download function available

RateIT project contact

For more information about the RateIT project please contact:

Dr Claudine Moutou
Institute of Transport and Logistics Studies
The University of Sydney Business School
The University of Sydney NSW 2006
claudine.moutou@sydney.edu.au
Tel: 02 9114 1878