

MEet and You

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TEST PLAN

Test Policy	4
In Scope	4
Out of Scope	4
General Test Policy	4
Unit Testing	4
Integration Testing	4
End to End Testing	4
Feature Level Scenarios	5
Datastore Access	5
End to End Testing	5
Logging/Archive	5
End-to-End Testing(Logging)	5
End-to-End Testing(Archive)	5
Login / Logout	6
End-to-End Testing (Log in)	6
Integration Testing (Log out)	6
Usage Analysis Dashboard	7
User Access Control	8
End to End Testing	8
User Management	9
Integration Testing	9
Registration	10
Duplicating Itineraries	12
End to End Testing	12
Hyperlink Sharing	13
Integration Testing	13
End to End Testing	14
Localized Weather Forecast	14
Memory Album	15
End to End testing	16
Rating System	16
Suggestions	17
Integration Testing	17
End to End Testing	19
User Profile Dashboard	19

TEST PLAN

Test Policy

In Scope

- Unit Testing
- Integration Testing
- End to End Testing

Out of Scope

- Penetration Testing
- Performance Testing
- Regression Testing
- Accessibility Testing

General Test Policy

Unit Testing

All the components related to a class, such as its methods and constructors, must pass unit tests before more thorough testing can be performed. In order to pass the unit test, each method must have a valid result based on the pass or failure scenarios. The goal of all tests is to have all of our tests return their expected values. Unit tests will be performed in each sprint with each completion of a new function, a set of functions, or the completion of classes.

Each component that undergoes unit testing should not take longer than 5-10 seconds for the test suite to be completed. This value will be subject to change, but as the code is reoptimized, the runtime.

Integration Testing

Utilized to determine whether the various components of our website are compatible and work together as designed. It will not be system-wide testing but will require various features coupled together or requiring various components.

It ensures that we have a web application with components that work together well at the feature level.

End to End Testing

End to end refers to the testing of the application from the front end to the back end. It ensures that all the components and the incorporated features work as intended. It tests the flow as we transition from one scenario in one end to another. It does not focus on the communication of the two modules.

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Feature Level Scenarios

Datastore Access

Test Creation Time Estimate: 8

Test Execution Time Estimate: 1

Total Testing Time (TTT): 9

Datastore access includes the ability to create, delete, update, and read application data.

Datastore is indispensable to the functionality of the application due to its influence over other features. As such, effective end-to-end testing is required to validate the integrity of application data.

End to End Testing

- **Expected Outcome(s)**
 - The system can create and store application data.
 - The system can delete existing stored data.
 - Existing data within the system can be modified.
 - The ability to read data from the system is supported.
- **Failing Outcome(s)**
 - The ability to create and store data is not present within the system.
 - Data within the system cannot be deleted, updated, or read.

Logging/Archive

Test Creation Time Estimate: 20

Test Execution Time Estimate: 3

Total Testing Time (TTT): 23

Logging as well as archiving will be well tested along with our various features. The specific tests for logging can be narrowed to end-to-end testing in order to verify data is logged to the database.

End-to-End Testing(Logging)

- **Expected Outcome(s)**
 - Personal user data is recorded unless the user opts out
 - Errors and telemetry based data is properly logged
- **Failing Outcome(s)**
 - Data/Actions are not logged into the database.
 - Data/Actions are inaccurately logged into the database.

End-to-End Testing(Archive)

- **Expected Outcome(s)**
 - Logs with extended lifespans are archived when one-day criteria are met.

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- **Failing Outcome(s)**

- Logs are not archived when the time conditions are met.
- The logs are not properly carried over into the archives.
- The log does not provide enough contextual information.

Login / Logout

Test Creation Time Estimate: 16

Test Execution Time Estimate: 2

Total Testing Time (TTT): 18

Integration Testing (Log in)

- The user will attempt to log in to the system using the appropriate username and password associated with their account without two-factor authentication.
 - **Expected Outcome(s)**
 - The system will verify that the username and password entered are associated with an account in the database and allow the user further access to the web app's features.
 - **Failing Outcome(s)**
 - The system will display an error message if the user enters a username and password that does not have a corresponding account.

End-to-End Testing (Log in)

- The user attempts to log into the system with invalid credentials.
 - **Expected Outcome(s)**
 - The system will give the user an error message stating that their username or password is incorrect.
 - The site will prompt the user to enter their credentials again.
 - **Failing Outcome(s)**
 - Nothing happens, and the user is left with no message.
- The user will attempt to log into the system using the appropriate username and password associated with their account with two-factor authentication.
 - **Expected Outcome(s)**
 - The system will verify the username and password and then ask the user to send a code to their phone.
 - **Failing Outcome(s)**
 - The system will display

Integration Testing (Log out)

- The user is idle from the application.
 - **Expected Outcome(s)**

TEST PLAN

- The user is logged out after 15 minutes.
 - **Failing Outcome(s)**
 - The user is not automatically logged out after 15 minutes of being idle.
- The user tries to log out.
 - **Expected Outcome(s)**
 - The user is logged out from the system and taken back to the homepage.
 - **Failing Outcome(s)**
 - The user is still logged into the system upon attempting to log out.

Usage Analysis Dashboard

Test Creation Time Estimate: 35

Test Execution Time Estimate: 3

Total Testing Time (TTT): 38

Integration Testing

- The calculations of metrics to be measured are correctly displayed on the dashboard within our system.
 - **Expected Outcome(s)**
 - The data retrieved is correctly calculated, such as the number of times a specific event category has been utilized.
 - **Failing Outcomes(s)**
 - The calculations are not understandable in any way.
 - The calculated data has no output of any type.
 - The data calculated negative display results

End to End Testing:

- An administrator selects a specific metric to view
 - **Expected Outcome(s)**
 - The proper graph is displayed to the administrator.
 - **Failing Outcomes(s)**
 - The selected metric displays no graph.
 - The incorrect graph is shown to the administrator.
 - The graph's visualization differs from the calculated values(inaccurate graph or wrong values).
 - User-specific information(sensitive) is logged and displayed in the form of a graph.
- The administrator refreshes/updates the visualization.
 - **Expected Outcome(s)**
 - The graph refreshes and populates with the updated information (i.e., New user registration means that information is logged, which alters the number of current accounts engaged in the web application).

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- **Failing Outcome(s)**
 - The graph fails to populate with the updated information. The updated information is not retrieved when the administrator refreshes the user analysis dashboard.
- The relevant data utilized in the user dashboard is stored/present within the database for access.
 - **Expected Outcome(s)**
 - The relevant data for the dashboard is able to be queried.
 - **Failing Outcome(s)**
 - The required data is not being logged by the logging feature.
 - The data that is meant to populate the dashboard is not present in the data storage to be queried, or the information present is insufficient.

User Access Control

Test Creation Time Estimate: 15

Test Execution Time Estimate: 4

Total Testing Time (TTT): 19

End to End Testing

- An account attempts to edit information without suitable permissions
 - **Expected Outcome(s)**
 - The user should not have the ability to view, execute, or manipulate data that does not apply to them.
 - The system informs unauthorized users that they do not have access to the data they are trying to access.
 - Users are prompted to sign up/sign in order to perform a certain action.
 - **Failing Outcome(s)**
 - Changes are logged and successfully saved into the data store.
 - User is not prompted to sign up/sign in order to perform a certain action
- User attempts to edit information from outside the specific country of the web application.
 - **Expected Outcome(s)**
 - Informs unauthorized users that they do not have access to the data they are trying to access.
 - **Failing Outcome(s)**
 - The user is outside of the United States and can access the web application.

TEST PLAN

User Management

Test Creation Time Estimate: 25

Test Execution Time Estimate: 3

Total Testing Time(TTT): 28

Integration Testing

- The user attempt to delete their account.
 - **Expected Outcome(s)**
 - The account holder's records are deleted from the data store, and they are simultaneously logged out of the application.
 - **Failing Outcome(s)**
 - The account holder's records remain in the data store.
 - The user remains logged in after successful account deletion.
- The user fails to log in after multiple attempts.
 - **Expected Outcome(s)**
 - The account is locked down, and further attempts thwarted
 - The user is prompted on the duration of the account lockdown.
 - Access attempts are logged.
 - **Failing Outcome(s)**
 - Account remains unlocked
 - Users are not prompted on lockdown duration.
 - Attempts to log into the account are not logged.
- The administrator attempts to unlock a locked account
 - **Expected Outcome(s)**
 - The administrator successfully unlocks the target account.
 - **Failing Outcome(s)**
 - The administrator fails to unlock the account.
 - The wrong account is unlocked
- The administrator attempts to delete an account
 - **Expected Outcome(s)**
 - The target account is successfully deleted from the datastore
 - **Failing Outcome(s)**
 - The target account remains in the data store.
 - The wrong user is deleted due to similar account details such as username.

TEST PLAN

Registration

Test Creation Time Estimate: 20

Test Execution Time Estimate: 5

Total Testing Time (TTT): 25

Integration Testing

- The user attempts to register an account with a valid email, valid name, valid username, valid password, and valid phone number.
 - **Expected Outcome(s)**
 - Account information(such as the user's email, username, and password) is stored in the data store.
 - The user is redirected to the home page.
 - A verification email is sent to the account holder's email
 - **Failing Outcome(s)**
 - Account information is not stored in the data store.
 - Incorrect information is stored within the data store.
 - A verification email is not sent to the specified email.
 - An account with invalid information is created and stored in the data store.
- User registers for an account with a duplicate username.
 - **Expected Outcome(s)**
 - The user is prompted that the username is already in use and the account is not created.
 - Written account info is stored for the user to freely manipulate it after the account creation fails.
 - **Failing Outcome(s)**
 - The user is not prompted that the username is already in use.
 - An account is created, and the information is stored within the data store.
 - Prior information is not saved.
- User attempts to register an account with a duplicate email.
 - **Expected Outcome(s)**
 - The user is prompted with an error message, letting them know that the mail is in use.
 - Written account info is stored for users to freely manipulate it after the account creation fails.
 - **Failing Outcome(s)**
 - No error message is displayed.
 - The account is created and stored in the data store.
- User attempts to register an account with an invalid name
 - **Expected Outcome(s)**
 - The user is prompted that their name does not match the given criteria.

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- Written account info is stored for users to freely manipulate it after the account creation fails.
- **Failing Outcome(s)**
 - The user is not prompted with an error message.
 - The account is created and stored in the data store.
- The user attempts to register an account with an invalid email.
 - **Expected Outcome(s)**
 - The user is prompted with an error message letting them know that the email was invalid.
 - Written account info is stored for users to freely manipulate it after the account creation fails.
 - **Failing Outcome(s)**
 - The user is not prompted with an error message.
 - The account is created and stored in the data store.
- The user attempts to register with an invalid username.
 - **Expected Outcome(s)**
 - The user is prompted with an error message letting them know that the username was invalid.
 - Written account info is stored for users to freely manipulate it after the account creation fails.
 - **Failing Outcome(s)**
 - The user is not prompted with an error message.
 - The account is created and stored in the data store.
- The user attempts to register with an invalid password.
 - **Expected Outcome(s)**
 - The user is prompted with an error message letting them know that the username was invalid.
 - Written account info is stored for users to freely manipulate it after the account creation fails.
 - **Failing Outcome(s)**
 - The user is not prompted with an error message.
 - The account is created and stored in the data store.
- The user attempts to register with a phone number.
 - **Expected Outcome(s)**
 - The user is sent a confirmation message.
 - **Failing Outcome(s)**
 - The user is not sent a confirmation message.
 - The account is created and stored in the data store.
- The user attempts to register with an invalid phone number.
 - **Expected Outcome(s)**

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- The user is prompted with an error message letting them know that the phone number was invalid.
- Written account info is stored for users to freely manipulate it after the account creation fails.
- **Failing Outcome(s)**
 - The user is not prompted with an error message.
 - The account is created and stored in the data store.

Duplicating Itineraries

Test Creation Time Estimate: 15

Test Execution Time Estimate: 3

Total Testing Time (TTT): 18

Integration Testing

- The user attempts to duplicate an itinerary that has collaborators in it.
 - **Expected Outcome(s)**
 - The collaborators do not have access to the duplicated itinerary.
 - **Failing Outcomes(s)**
 - The collaborators have access to the duplicated itinerary.
- The user attempts to duplicate an itinerary after their account has reached the maximum number of itineraries.
 - **Expected Outcome(s)**
 - The user is notified to delete itineraries in the user profile dashboard.
 - **Failing Outcome(s)**
 - A new itinerary is made, and the limit of itineraries per user account is not enforced.
- The user attempts to insert the name of the new itinerary that they are duplicating.
 - **Expected Outcome(s)**
 - The itinerary is duplicated with the name the user specifies.
 - **Failing Outcome(s)**
 - A new itinerary is not created because the name is not different from the original.
 - A new itinerary is not created because the user did not use solely alphanumeric characters.
 - A new itinerary is not created because the name exceeded the character count of 35.

End to End Testing

- The user accesses the context menu and selects duplicate itineraries.
 - **Expected Outcome(s)**
 - The user is presented with the option to name the new duplicated itinerary.

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- **Failing Outcome(s)**
 - The user is not presented with the option to name the new itinerary.
- The user updates the name on the duplicated itinerary.
 - **Expected Outcome(s)**
 - The user is presented with a list of events that they want to transfer into the new itinerary.
 - **Failing Outcome(s)**
 - The user was not allowed to proceed further because the name they entered violated one of the restrictions:
 - Longer than 35 characters
 - Not alphanumeric
 - The name is the same as the original itinerary
- The user chooses from a list of events within the itinerary to copy over to the new itinerary.
 - **Expected Outcome(s)**
 - A new itinerary is created.
 - **Failing Outcome(s)**
 - Events are not copied over, and duplicated itinerary is not created.

Hyperlink Sharing

Test Creation Time Estimate: 12

Test Execution Time Estimate: 2

Total Testing Time (TTT): 14

Integration Testing

- The user clicks on the share prompt.
 - **Expected Outcome(s)**
 - The user is presented with options to share the itinerary via email or a shareable link.
 - **Failing Outcomes(s)**
 - The user is not given the sharing option prompt.
- The user specifies whether they want to share via email or to use a shareable link.
 - **Expected Outcome(s)**
 - The user is presented with the option to copy the shareable hyperlink with varying sharing permission (e.g., view and edit), or the user appends the emails they want to use to share.
 - **Failing Outcome(s)**
 - The user is not given any sharing permissions and cannot share the itinerary with anyone.

TEST PLAN

End to End Testing

- The owner of the itinerary attempts to remove a collaborator.
 - **Expected Outcome(s)**
 - The collaborator no longer has access to the itinerary.
 - **Failing Outcome(s)**
 - The collaborator still has access.
- No more than five people can be on a shared itinerary.
 - **Expected Outcome(s)**
 - Limit is enforced when the shared collaborator count exceeds five.
 - **Failing Outcome(s)**
 - More than five people are on a shared itinerary.
- The owner of the itinerary attempts to update sharing permissions of a collaborator.
 - **Expected Outcome(s)**
 - The collaborator has modified sharing permissions within five seconds of the permissions being changed.
 - **Failing Outcome(s)**
 - The collaborator still has the original sharing permissions instead of the updated ones.

Localized Weather Forecast

Test Creation Time Estimate: 10

Test Execution Time Estimate: 3

Total Testing Time (TTT): 13

Integration Testing

- An event is populated with relevant weather metrics.
 - **Expected Outcome(s)**
 - Details related to the weather such as wind speed, humidity, precipitation, temperatures are shown
 - **Failing Outcomes(s)**
 - Details fail to populate.
 - Widget fails to appear for the events.

End to End Testing

- User selects an event to see weather metrics
 - **Expected Outcome(s)**
 - The correct information is displayed
 - **Failing Outcome(s)**
 - Incorrect information is displayed.
 - Weather metrics fail to display.

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- The widget fails to populate with the information.
- The relevant data is stored/present data to be accessed
 - **Expected Outcome(s)**
 - The relevant data for the weather metrics is able to be queried.
 - **Failing Outcome(s)**
 - The required data is not being logged by the logging feature.
 - The data that is meant to populate the dashboard is not present in the data storage to be queried, or the information present is insufficient.

Memory Album

Test Creation Time Estimate: 15

Test Execution Time Estimate: 5

Total Testing Time (TTT): 20

Integration Testing

- User clicks into an itinerary.
 - **Expected Outcome(s)**
 - A dedicated section full of photos or a prompt to upload photos is displayed to the user.
 - **Failing Outcomes(s)**
 - Pictures that are uploaded are not displayed.
 - A prompt to upload pictures are not displayed.
- A guest user with sharing permissions clicks into the itinerary.
 - **Expected Outcome(s)**
 - The user is presented with the same section of photos
 - The user is presented with a prompt to upload photos.
 - **Failing Outcome(s).**
 - The user is not shown pictures.
 - The user is not shown a prompt.
- The user duplicates an itinerary.
 - **Expected Outcome(s)**
 - The memory album is not copied over to the duplicated itinerary.
 - The duplicated itinerary prompts the user to upload photos upon clicking into it.
 - **Failing Outcome(s)**
 - The memory album is copied over to the duplicated itinerary.
- The user adds an image to the memory album.
 - **Expected Outcome(s)**
 - The image is properly scaled down to the proper dimensions to display on the site.

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- The image is scaled up when clicked into from the memory album.
- **Failing Outcome(s)**
 - The image is not scaled down, and the full dimensions are displayed.

End to End testing

- The user attempts to add an eleventh photo to the memory album.
 - **Expected Outcome(s)**
 - The system prompts the user telling them that they've reached the limit of photos they could add to the album.
 - The image is not uploaded.
- The user attempts to add an unsupported file type for the image.
 - **Expected Outcome(s)**
 - The system prompts the user, letting them know that the file they are trying to upload is not supported.
 - The file is added to the memory album.
 - **Failing Outcome(s)**
 - The system doesn't prompt the user about the unsupported file type.
 - The file type is added to the memory album.
- The user attempts to upload a photo that has a file size greater than 5 MB.
 - **Expected Outcome(s)**
 - The system prompts the user, letting them know that the image they are trying to upload is greater than the allotted space.
 - The photo is not uploaded to the system.
 - **Failing Outcome(s)**
 - The system fails to flag the image for being too large and accepts the file.
 - The image is uploaded.

Rating System

Test Creation Time Estimate: 14

Test Execution Time Estimate: 3

Total Testing Time (TTT): 17

Integration Testing

- User appends a rating to a specific event.
 - **Expected Outcome(s)**
 - The rating is now associated with a specific event.
 - **Failing Outcomes(s)**
 - User rating fails to be logged to a specific event
- User appends a note to an event
 - **Expected Outcome(s)**
 - The user's note is added and displayed with the relevant itinerary.

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- **Failing Outcome(s)**
 - The note fails to be saved and displayed with the relevant event.
 - An incorrect note is appended to the event(what the user typed is not what is displayed).
 - A note is attached to the wrong event.

End to End Testing

- An account selects a location pin rating of 1-5
 - **Expected Outcome(s)**
 - The user rating is successfully submitted and is accurately visualized on the UI.
 - **Failing Outcomes(s)**
 - The user rating is not properly registered.
 - The rating is not properly logged.
 - The user input rating is displayed as a different value from the original input(i.e., Rating of one displayed as three, etc.)
 - The rating is incorrectly visualized at the UI level(5 stars showing as 4, 2 stores as 3, etc.)
- User modifies the rating
 - **Expected Outcome(s)**
 - The account successfully submits the rating.
 - **Failing Outcome(s)**
 - The account is unable to submit a modification to the ratings.

Suggestions

Test Creation Time Estimate: 20

Test Execution Time Estimate: 4

Total Testing Time (TTT): 24

Integration Testing

- Users visiting the site add a location that they want for their itinerary.
 - **Expected Outcome(s)**
 - If this is the first time the user is visiting the site, they will be prompted to create an account or log in if they already have an account.
 - If the user is already logged in, then they are taken to the itinerary creation page.
 - **Failing Outcomes(s)**
 - The user is taken to the itinerary creation page, but they are not logged in.
 - The user is logged in but is taken to another page that is not the itinerary creation page.

TEST PLAN

- The user specifies the different categories that they want for the events that the system will display to them.
 - **Expected Outcome(s)**
 - The user is shown a list of events related to the categories that they choose from
 - The event shown has its own list of details: weatherforecast, cost of the event, and location.
 - **Failing Outcome(s)**
 - The user is shown an unrelated list of events that do not pertain to the categories they selected.
 - The user is not shown any list of events.
 - The events are displayed but with missing details.
- The user clicks into the recommended events section on the right of the itinerary creation page.
 - **Expected Outcome(s)**
 - The user is shown a list of at most ten events that are within the area.
 - The events that are displayed are from the general categories that the user could choose from.
 - If there are no events in the area, nothing is shown.
 - **Failing Outcome(s)**
 - There are events in the area, but nothing is being shown.
 - The user is shown more than ten events.
- The user appends events to their itinerary.
 - **Expected Outcome(s)**
 - The event is now on the itinerary.
 - The user can continue to add events into their itinerary.
 - **Failing Outcome(s)**
 - The event is not appended to the itinerary.
- The user finishes appending events and finalizes the itinerary.
 - **Expected Outcome(s)**
 - The user is presented with a summary of the events within the itinerary.
 - The events are displayed in chronological order.
 - **Failing Outcome(s)**
 - The user is not presented with a summary of the events.
 - The events are displayed but in the incorrect order.
 - The events are not displayed to the user.
 - Some but not all the events are shown to the user.

TEST PLAN

End to End Testing

- The user sets the location radius they want to use for their event search.
 - **Expected Outcome(s)**
 - Events within the radius set by the user are recommended.
 - **Failing Outcomes(s)**
 - Events not within the radius are recommended to the user.
 - Events within the radius are not recommended to the user.
- The user removes an event from their itinerary.
 - **Expected Outcome(s)**
 - The event is taken out of the user's itinerary
 - **Failing Outcome(s)**
 - The Event is not taken out of the user's itinerary.
- The user changes the order of the events in their itinerary.
 - **Expected Outcome(s)**
 - The change the user made is reflected in the itinerary summary.
 - The user will be notified if the order change conflicts with existing times.
 - **Failing Outcome(s)**
 - The change made is not reflected in the itinerary summary.
 - The user is not notified of any time conflicts with moving their events.
- The user clicks into events.
 - **Expected Outcome(s)**
 - Event details such as description, weather, address, and price.
 - **Failing Outcome(s)**
 - Event details are not shown to the user.

User Profile Dashboard

Test Creation Time Estimate: 14

Test Execution Time Estimate: 5

Total Testing Time (TTT): 19

Integration Testing

- User accesses profile dashboard access
 - **Expected Outcome(s)**
 - The dashboard displays sections for recent/favorite/all itineraries, account settings, user's personal profile.
 - **Failing Outcomes(s)**
 - The relevant sections fail to load and populate.
 - The user is unable to individually access these sections.
- User accesses recent/favorite/all itineraries.
 - **Expected Outcome(s)**

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- Each itinerary is displayed with the relevant information(i.e., name, date of creation, etc.)
- **Failing Outcome(s)**
 - The relevant information is not displayed.
 - The relevant information populates on the wrong itinerary.
 - The itineraries fail to appear.
- User accesses account settings.
 - **Expected Outcome(s)**
 - User profile populates with the relevant data entered at the point of registration.
 - The option for 2FA appears for the user as well as user accessibility settings(notifications).
 - **Failing Outcome(s)**
 - The profile fails to populate and the options to be provided to the user also fail to populate.

End to End Testing

- User modifies first name/last name
 - **Expected Outcome(s)**
 - First/last name is changed from previous to their new first/last names
 - Users are notified through email that their Account first/last name has been changed.
 - **Failing Outcome(s)**
 - Account email remains the same as the older one after the change.
 - Users are not notified through email that their Account first/last name has been changed.
- User modifies username
 - **Expected Outcome(s)**
 - The username is changed from an older one to a newer username.
 - Users are alerted if their current username matches their newer username.
 - **Failing Outcome(s)**
 - The username remains the same as the older one after the change.
 - Users are not alerted if their current username matches their newer username.
- User modifies number
 - **Expected Outcome(s)**
 - The phone is changed from an older one to a newer one.
 - Users are alerted if their phone number is in the incorrect format.
 - An email notification is sent out to the users.
 - **Failing Outcome(s)**

TEST PLAN

- The account phone number remains the same as the older one after the change.
 - Users are not alerted if their phone number is in the incorrect format.
 - Email notification fails to be sent out to the users.
- User modifies email
 - **Expected Outcome(s)**
 - Email is changed from an older one to a newer email account.
 - Users are alerted if their current email matches their newer email.
 - **Failing Outcome(s)**
 - Account email remains the same as the older one after change.
 - Users are not notified that their old email matches their new one.
- User modifies password
 - **Expected Outcome(s)**
 - Passwords are successfully changed from old to new.
 - Users are alerted that the previous password is the same as the new password.
 - The user is notified through email about the password change.
 - **Failing Outcome(s)**
 - Password fails to be modified, and the previous password remains in use.
 - The user is not alerted about the similarity of their previous password to their newer ones.
 - User fails to receive the notification about the password change
- User selects/unselects itinerary in favorite itineraries
 - **Expected Outcome(s)**
 - The itinerary is removed from the grid of favorite itineraries
 - **Failing Outcome(s)**
 - Removed itinerary remains in the favorite itineraries categories.