Product Name: Pill Pal

Team Name: Pill Pal Team

Date: 6/4/24

Test Plan and Report

Unit Tests:

To run the backend automated tests, navigate to `backend/server/test` and run `runner.py` while the backend is running. All the automated tests pass.

System Test Scenarios:

Notes:

- Each scenario assumes the app is fresh with no previous data
- When the instruction says the user should be on a specific screen, this refers to the name that is shown at the top center of the screen
- Each user story is separated by a page break
- For reminders: {currentTime} is the time the user is running the test, {currentTime(hour)} is the hour portion of the user's current time (12 hour clock), {currentTime(min)} is the minute portion of the user's current time, {currentTime(period)} is the AM/PM portion of the user's current time, and {currentTime(day)} is the day of the week the user is running the test
- "User should see" typically specifies the **relevant** information/fields the user should see

A. Accounts: "As someone who takes prescriptions/medications, I want to have an account to backup and sync my prescriptions across devices."

- **Scenario 1: Create Account** (Pass)
    1. Start Pill Pal App
    2. Select "Don't Have An Account? Click Here to Create One"
    3. Type:

        First Name = Chell

        Last Name = Subject234

        Email = chell@aperturelabs.com

        Password = pwd

        Press "Create Account"
    4. User should see a popup with the title "User Successfully Created"

5. User should be returned to the "Login" screen

- **Scenario 2: Create Account Invalid Email Format** (Pass)
    1. Start Pill Pal App
    2. Select "Don't Have An Account? Click Here to Create One"
    3. Type:

        First Name = Chell

        Last Name = Subject234

        Email = invalidFormat

        Password = pwd

        Press "Create Account"
    4. User should see a popup with the title "Invalid Email"
    5. User should remain on the "Sign Up" screen

- **Scenario 3: Create Existing Account** (Pass)
    1. Follow steps in Scenario A.1 to create an account
    2. Select "Don't Have An Account? Click Here to Create One"
    3. Type:

        First Name = Chell

        Last Name = Subject234

        Email = chell@aperturelabs.com

        Password = pwd

        Press "Create Account"
    4. User should see a popup with the title "Sign Up Failed" and subtext "There is already a user with this email."
    5. User should be returned to the "Login" screen

- **Scenario 4: Log In** (Pass)
    1. Follow steps in Scenario A.1 to create an account
    2. Press "OK" on "User Successfully Created" popup
    3. Type:

        Email = chell@aperturelabs.com

        Password = pwd
    4. User should switched to "Home" screen

- **Scenario 5: Invalid Login Credentials** (Pass)
    1. Start Pill Pal App
    2. Type:

Email = nobody@email.com

Password = idontexist

3. User should see a popup with the title "Login Failed" and subtext "Invalid email or password"

4. User should remain on the "Login" screen

● **Scenario 6: Switch Accounts** (Pass)

*Note: Profile screen was added after Sprint 4 ended; before this the test added a med and then swapped accounts to check the account data is different

1. Follow steps in Scenario A.4 to login as Chell

2. Swipe Right on the screen

3. User should see the navigation side menu

4. Press "Profile"

5. User should see a screen with the text:

First Name: Chell

Last Name: Subject234

Email Address: chell@aperturelabs.com

6. Press "Logout" button

7. User should now see the "Login" screen

8. Select "Don't Have An Account? Click Here to Create One"

9. Type:

First Name = GLaDOS

Last Name = Caroline

Email = GLaDOS@aperturelabs.com

Password = password

Press "Create Account"

10. User should see a popup with the title "User Successfully Created"

11. User should be returned to the "Login" screen

12. Press "OK" on "User Successfully Created" popup

13. Type:

Email = GLaDOS@aperturelabs.com

Password = password

14. User should switched to "Home" screen

15. Swipe Right on the screen

16. User should see the navigation side menu

17. Press "Profile"
18. User should see a screen with the text:

      First Name: GLaDOS

      Last Name: Caroline

      Email Address: GLaDOS@aperturelabs.com

- **Scenario 7: Synchronization** (Pass)

  *Note: this test requires 2 devices/simulators, or when it says to swap to another device just reset the data on the same device. It also requires that adding medications is done

  1. Follow steps in Scenario B.1 to add the Lutera medication
  2. Swap to another device with the Pill Pal App
  3. Follow steps in Scenario A.4 to login as Chell
  4. User should be on the "Home" Screen
  5. User should see a collapsed dropdown box under the text "Current Medications"; The box should have the text "Lutera" and "Take 1 pill once per day"

- **Scenario 8: Login Persistence** (Pass)

  1. Follow steps in Scenario A.4 to login as Chell
  2. Close the Pill Pal app completely
  3. Re-open the Pill Pal app
  4. User should still be on the "Home" screen

B. Add Meds: "As someone who takes prescriptions/medications, I would like to add my current medications to the app."

- **Scenario 1: Add Medication** (Pass)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Type/Select:

        Medication Name = Lutera

        Amount Taken Per Dose = 1

        How Often Medication is Taken = Daily

        How Many Times Per Day/Week = 1
    7. Press "Add Med" Button
    8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
    9. On the popup, press "No"
    10. User should be on the "Home" Screen
    11. User should see a collapsed dropdown box under the text "Current Medications"; The box should have the text "Lutera" and "Take 1 pill once per day"
    12. Press "Lutera"
    13. User should see the dropdown box expand. The expanded portion should include the text:

        Additional Info: None

- **Scenario 2: Leave Required Fields Blank** (Pass)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Press "Add Med" Button
    7. User should see a popup with the title "Unfinished Data Entry"

C. <u>Edit/Delete Meds</u>: "As someone who takes prescriptions/medications, I would like to edit or delete my current medications on the app."
- **Scenario 1: Delete Medication** (Pass)
    1. Follow steps in Scenario B.1 to add the Lutera medication
    2. Press "Lutera" to expand the dropbox
    3. Press the trash can icon
    4. User should see a popup titled "Confirm Deletion"
    5. Press "Yes"
    6. User should no longer see "Lutera" under "Current Medications"

- **Scenario 2: Cancel Delete Medication** (Pass)
    1. Follow steps in Scenario B.1 to add the Lutera medication
    2. Press "Lutera" to expand the dropbox
    3. Press the trash can icon
    4. User should see a popup titled "Confirm Deletion"
    5. Press "Cancel"
    6. User should still see a dropdown box with "Lutera" under "Current Medications"

- **Scenario 3: Edit Medication Basic Info** (Pass)
    1. Follow Steps in Scenario B.1 to add the Lutera medication
    2. Press "Lutera" to expand the dropbox
    3. Press the pencil icon
    4. User should be on the "Edit Medication" screen
    5. User should see:
        Medication Name: Lutera
        Amount Taken Per Dose: 1

        How Often Medication is Taken: Daily

        How Many Times Per Day/Week: 1
    6. Type:
        Medication Name = Paxil
    7. Press "Edit Med"
    8. User should see a popup with the title "Medication Edited"
    9. Press "OK"
    10. User should be on the "Home" screen
    11. User should see an uncollapsed dropdown box under the text "Current Medications"; The box should have the text "Paxil" and "Take 1 pill once per day"

D. <u>Take Med Reminders</u>: "As someone who takes prescriptions/medications, I want to get notification reminders about my prescriptions so that I don't forget to take them."

- **Scenario 1: Setup Daily Reminder** (Pass)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Type/Select:

        Medication Name = Lutera

        Amount Taken Per Dose = 1

        How Often Medication is Taken = Daily

        How Many Times Per Day/Week = 1

        Send Me Reminders to Take this Medication (checkbox) = yes/checked

        Reminder 1 =

        Hour = {currentTime(hour)}

        Minute = {currentTime(min) + 1}

        AM or PM = {currentTime(period)}

    7. Press "Add Med"
    8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
    9. On the popup, press "No"
    10. User should be on the "Home" Screen
    11. Press "Lutera" to expand the dropdown box
    12. User should see "Reminders: Reminder 1: Every day at {currentTime + 1 min}"
    13. Wait until {currentTime} + 1 min
    14. The user should receive a notification saying "Take 1 of Lutera"
- **Scenario 2: Setup Weekly Reminder** (Pass)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Type/Select:

Medication Name = Actonel

Amount Taken Per Dose = 1

How Often Medication is Taken = Weekly

How Many Times Per Day/Week = 1

Send Me Reminders to Take this Medication (checkbox) = yes/checked

Reminder 1 =

Hour = {currentTime(hour)}

Minute = {currentTime(min) + 1}

AM or PM = {currentTime(period)}

Day of the Week = {currentTime(day)}

7. Press "Add Med"
8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
9. On the popup, press "No"
10. User should be on the "Home" Screen
11. Press "Actonel" to expand the dropdown box
12. User should see "Reminders: Reminder 1: Every {currentTime(day)} at {currentTime + 1 min}"
13. Wait until {currentTime + 1 min}
14. The user should receive a notification saying "Take 1 of Actonel"

● **Scenario 3: Multiple Reminders for One Med** (Pass)
1. Follow steps in Scenario A.4 to login as Chell
2. Swipe Right on the Screen
3. User should see the navigation side menu
4. Press "Add Medication"
5. User should be on the "Add Medication" screen
6. Type/Select:

Medication Name = Prilosec

Amount Taken Per Dose = 2

How Often Medication is Taken = Daily

How Many Times Per Day/Week = 2

Additional Info = Take 30 mins before meals

Send Me Reminders to Take this Medication (checkbox) = yes/checked

Reminder 1 =

Hour = {currentTime(hour)}

Minute = {currentTime(min) + 1}

AM or PM = {currentTime(period)}

Reminder 2 =

Hour = {currentTime(hour)}

Minute = {currentTime(min) + 2}

AM or PM = {currentTime(period)}

7. Press "Add Med"
8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
9. On the popup, press "No"
10. User should be on the "Home" Screen
11. Press "Prilosec" to expand the dropdown box
12. User should see "Reminders: Reminder 1: Every day at {currentTime + 1 min} Reminder 2: Every day at {currentTime + 2 min}"
13. Wait until {currentTime} + 1 min
14. The user should receive a notification saying "Take 2 of Prilosec"
15. Wait until {currentTime} + 2 min
16. The user should receive a notification saying "Take 2 of Prilosec"

- **Scenario 4: Invalid Time** (Pass)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Type/Select:

Medication Name = Lutera

Amount Taken Per Dose = 1

How Often Medication is Taken = Daily

How Many Times Per Day/Week = 1

Send Me Reminders to Take this Medication (checkbox) = yes/checked

Reminder 1 =

Hour = {currentTime(hour)}

Minute = {currentTime(min) + 1}

AM or PM = {currentTime(period)}

7. Press "Add Med"
8. User should see a popup with the title "Unfinished or Invalid Data Entry" and subtext "Please fill in the Reminder fields properly"

- **Scenario 5: Edit Medication Reminder** (Pass)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Type/Select:

        Medication Name = Lutera

        Amount Taken Per Dose = 1

        How Often Medication is Taken = Daily

        How Many Times Per Day/Week = 1

        Send Me Reminders to Take this Medication (checkbox) yes/checked

        Reminder 1 =

        Hour = 9

        Minute = 00

        AM or PM = AM
    7. Press "Add Med"
    8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
    9. On the popup, press "No"
    10. User should be on the "Home" Screen
    11. Press "Lutera" to expand the dropdown box
    12. User should see "Reminders: Reminder 1: Every day at 9:00 AM"
    13. Press the pencil icon
    14. User should be on the "Edit Medication" screen
    15. User should see:

        Medication Name: Lutera
        Amount Taken Per Dose: 1

        How Often Medication is Taken: Daily

        How Many Times Per Day/Week: 1

        Send Me Reminders to Take this Medication (checkbox) yes/checked

        Reminder 1 =

> > Hour = 9
>
> > Minute = 00
>
> > AM or PM = AM

16. Type:

> Reminder 1 =
>
> > Hour = {currentTime(hour)}
> >
> > Minute = {currentTime(min) + 1}
> >
> > AM or PM = {currentTime(period)}

17. Press "Edit Med"
18. User should see a popup with the title "Medication Edited"
19. Press "OK"
20. User should be on the "Home" Screen
21. Press "Lutera" to expand the dropdown box
22. User should see "Reminders: Reminder 1: Every day at {currentTime + 1 min}"
23. Wait until {currentTime} + 1 min
24. The user should receive a notification saying "Take 1 of Lutera"

- **Scenario 6: Delete Medication Reminder (Through Edit Screen)** (Pass)
    1. Follow steps 1 - 10 in Scenario D.1 to create the Lutera medication with a daily reminder set at {currentTime + 1 min}
    2. Press "Lutera" to expand the dropdown box
    3. Press the pencil icon
    4. User should be on the "Edit Medication" screen
    5. User should see:
       > Medication Name: Lutera
       > Amount Taken Per Dose: 1
       >
       > How Often Medication is Taken: Daily
       >
       > How Many Times Per Day/Week: 1
       >
       > Send Me Reminders to Take this Medication (checkbox): yes/checked
       >
       > Reminder 1 =
       >
       > > Hour = {currentTime(hour)}
       > >
       > > Minute = {currentTime(min) + 1}
       > >
       > > AM or PM = {currentTime(period)}
    6. Uncheck the "Send Me Reminders to Take this Medication" checkbox
    7. Press "Edit Med"
    8. User should see a popup with the title "Medication Edited"
    9. Press "OK"
    10. User should be on the "Home" Screen
    11. Press "Lutera" to expand the dropdown box

12. User should see "Reminders: No reminders are set for this medication."

13. User will not receive a reminder at {currentTime(min) + 1}

- **Scenario 7: Add Medication Reminder (Through Edit Screen)** (Pass)
    1. Follow steps in Scenario B.1 to create the Lutera medication without reminders
    2. Press "Lutera" to expand the dropdown box

    3. Press the pencil icon
    4. User should be on the "Edit Medication" screen
    5. User should see:

        Medication Name: Lutera
        Amount Taken Per Dose: 1

        How Often Medication is Taken: Daily

        How Many Times Per Day/Week: 1

        Send Me Reminders to Take this Medication (checkbox): no/unchecked

    6. Type/Select:

        Send Me Reminders to Take this Medication (checkbox): yes/checked
        Reminder 1 =

            Hour = {currentTime(hour)}

            Minute = {currentTime(min) + 1}

            AM or PM = {currentTime(period)}

    7. Press "Edit Med"
    8. User should see a popup with the title "Medication Edited"
    9. Press "OK"
    10. User should be on the "Home" Screen
    11. Press "Lutera" to expand the dropdown box

    12. User should see "Reminders: Reminder 1: Every {currentTime(day)} at

        {currentTime + 1 min}"

    13. Wait until {currentTime + 1 min}
    14. The user should receive a notification saying "Take 1 of Lutera"

- **Scenario 8: Remind Again Later** (Pass)
    1. Follow steps 1 - 10 in Scenario D.1 to create the Lutera medication with a daily reminder set at {currentTime + 1 min}
    2. Wait until {currentTime + 1 min}
    3. The user should receive a notification saying "Take 1 of Lutera"
    4. Open the notification actions (for apple press & hold then swipe down; for android expand with the down arrow)
    5. Press "Remind Later"
    6. Wait 15 minutes
    7. The user should receive a notification saying "Take 1 of Lutera"

E. <u>Refill Reminders</u>: "As someone who takes prescriptions/medications, I want to get notification reminders to refill my prescriptions so that I don't need to keep track of them myself."

- **Scenario 1: Create Refill Reminder** (Fail: only receive reminder when app reloaded)
    1. Follow steps in Scenario A.4 to login as Chell
    2. Swipe Right on the Screen
    3. User should see the navigation side menu
    4. Press "Add Medication"
    5. User should be on the "Add Medication" screen
    6. Type/Select:

        Medication Name = Lutera

        Amount Taken Per Dose = 1

        How Often Medication is Taken = Daily

        How Many Times Per Day/Week = 1

        Send Me Reminders to Take this Medication (checkbox) = yes/checked

        Reminder 1 =

        Hour = {currentTime(hour)}

        Minute = {currentTime(min) + 1}

        AM or PM = {currentTime(period)}

        Send Me Reminders to Refill this Medication (checkbox) = yes/checked

        Amount Per Refill = 30

        Number of Pills Left Before Reminder = 7

        Current Amount = 8

    7. Press "Add Med"
    8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
    9. On the popup, press "No"
    10. User should be on the "Home" Screen
    11. Press "Lutera" to expand the dropdown box
    12. User should see:

        Reminders:

        Reminder 1: Every day at {currentTime + 1 min}

        Refill Reminder:

        Refill Amount: 30

        Pills Left Before Reminder: 7

Current Pill Count: 8

13. Wait until {currentTime} + 1 min
14. The user should receive a notification saying "Take 1 of Lutera"
15. Open the notification actions (for apple press & hold then swipe down; for android expand with the down arrow)
16. Press "Taken"
17. The user should receive a notification saying "Refill Lutera. You have 7 pills left."

- **Scenario 2: Edit Refill Reminder** (Pass)
    1. Follow steps 1 - 10 to create the Lutera medication with refill reminders
    2. Press "Lutera" to expand the dropdown box
    3. Press the pencil icon
    4. User should see:

        Medication Name: Lutera

        Amount Taken Per Dose: 1

        How Often Medication is Taken: Daily

        How Many Times Per Day/Week: 1

        Send Me Reminders to Take this Medication (checkbox): yes/checked

        Reminder 1:

            Hour: {currentTime(hour)}

            Minute: {currentTime(min) + 1}

            AM or PM: {currentTime(period)}

        Send Me Reminders to Refill this Medication (checkbox): yes/checked

        Amount Per Refill: 30

        Number of Pills Left Before Reminder: 7

        Current Amount: 8

    5. Type:

        Number of Pills Left Before Reminder: 5

    6. Press "Edit Med"
    7. User should see a popup with the title "Medication Edited"
    8. Press "OK"
    9. User should be on the "Home" screen
    10. User should the expanded Lutera box with text:

        Reminders: Reminder 1: Every day at {currentTime + 1 min}

        Refill Reminder:

            Refill Amount: 30

            Pills Left Before Reminder: 5

            Current Pill Count: 8

F. <u>Log</u>: "As someone who takes prescriptions/medications, I want to view a log of when I took my prescriptions so that I can share this information with doctors when needed."

- **Scenario 1: Log When Medication is Taken**
    1. Follow steps 1 - 10 in Scenario D.1 to create the Lutera medication with a daily reminder set at {currentTime + 1 min}
    2. Wait until {currentTime + 1 min}
    3. The user should receive a notification saying "Take 1 of Lutera"
    4. Open the notification actions (for apple press & hold then swipe down; for android expand with the down arrow)
    5. Press "Taken"
    6. Swipe Right on the Screen
    7. User should see the navigation side menu
    8. Press "Medication Logs"
    9. User should see "Log Entries: Took 1 Lutera at {currentDate}, {currentTime}"

G. <u>As Needed Meds</u>: "As someone who takes prescriptions/medications, I want to be able to add as needed prescriptions so that I can log when I took them and track that enough time has passed between taking them."

- **Scenario 1: Adding As Needed Med** (Pass)
  1. Follow steps in Scenario A.4 to login as Chell
  2. Swipe Right on the Screen
  3. User should see the navigation side menu
  4. Press "Add Medication"
  5. User should be on the "Add Medication" screen
  6. Type/Select:

     Medication Name = Ibuprofen

     Amount Taken Per Dose = 2

     How Often Medication is Taken = As Needed

     Time Between Doses (Hours) = 4

  7. Press "Add Med" Button
  8. User should see a popup with the title "Medication Added Successfully" and subtext "Would you like to add another medication?"
  9. On the popup, press "No"
  10. User should be on the "Home" Screen
  11. User should see a collapsed dropdown box under the text "Current Medications"; The box should have the text "Ibuprofen" and "Take 2 pills every 4 hours as needed"
  12. Swipe Right on the Screen
  13. User should see the navigation side menu
  14. Press "As Needed Medications"
  15. User should be on the "As Needed Medications" screen
  16. User should see a box with the text "Ibuprofen" and "Take 2 pills every 4 hours as needed" as well as a button that says "Log"
- **Scenario 2: Logging As Needed Med** (Pass)
  1. Follow steps in Scenario G.1 to create the Ibuprofen medication and navigate to the "As Needed Medications Screen"
  2. Press "Log"
  3. User should see a popup with the title "Medication Logged"
  4. Press "OK"
  5. Swipe Right on the Screen
  6. User should see the navigation side menu
  7. Press "Medication Logs"
  8. User should be on the "Medication Logs" screen

9. User should see "Log Entries: Took 2 Ibuprofen at {currentDate}, {currentTime}"
- **Scenario 3: Trying to Take As Needed Med Too Soon** (Pass)
    1. Follow steps in Scenario G.1 to create the Ibuprofen medication and navigate to the "As Needed Medications Screen"
    2. Press "Log"
    3. User should see a popup with the title "Medication Logged"
    4. Press "OK"
    5. Press "Log"
    6. User should see a popup with the title "Warning: Too Soon to Take Medication Again"
- **Scenario 4: Editing As Needed Med** (Pass)
    1. Follow steps 1 - 10 in Scenario G.1 to create the Ibuprofen medication
    2. Press "Ibuprofen" to expand the dropdown box
    3. Press the pencil icon
    4. User should be on the "Edit Medication" screen
    5. User should see:

        Medication Name: Ibuprofen
        Amount Taken Per Dose: 2

        How Often Medication is Taken = As Needed

        Time Between Doses (Hours) = 4

    6. Type:

        Time Between Doses (Hours) = 4

    7. Press "Edit Med"
    8. User should see a popup with the title "Medication Edited"
    9. Press "OK"
    10. User should be on the "Home" screen
    11. User should see a dropdown box with "Ibuprofen" and Take 2 pills every 6 hours as needed"