Diabetic Mate:
Your Type-1 Diabetic Friend

Design Sketch

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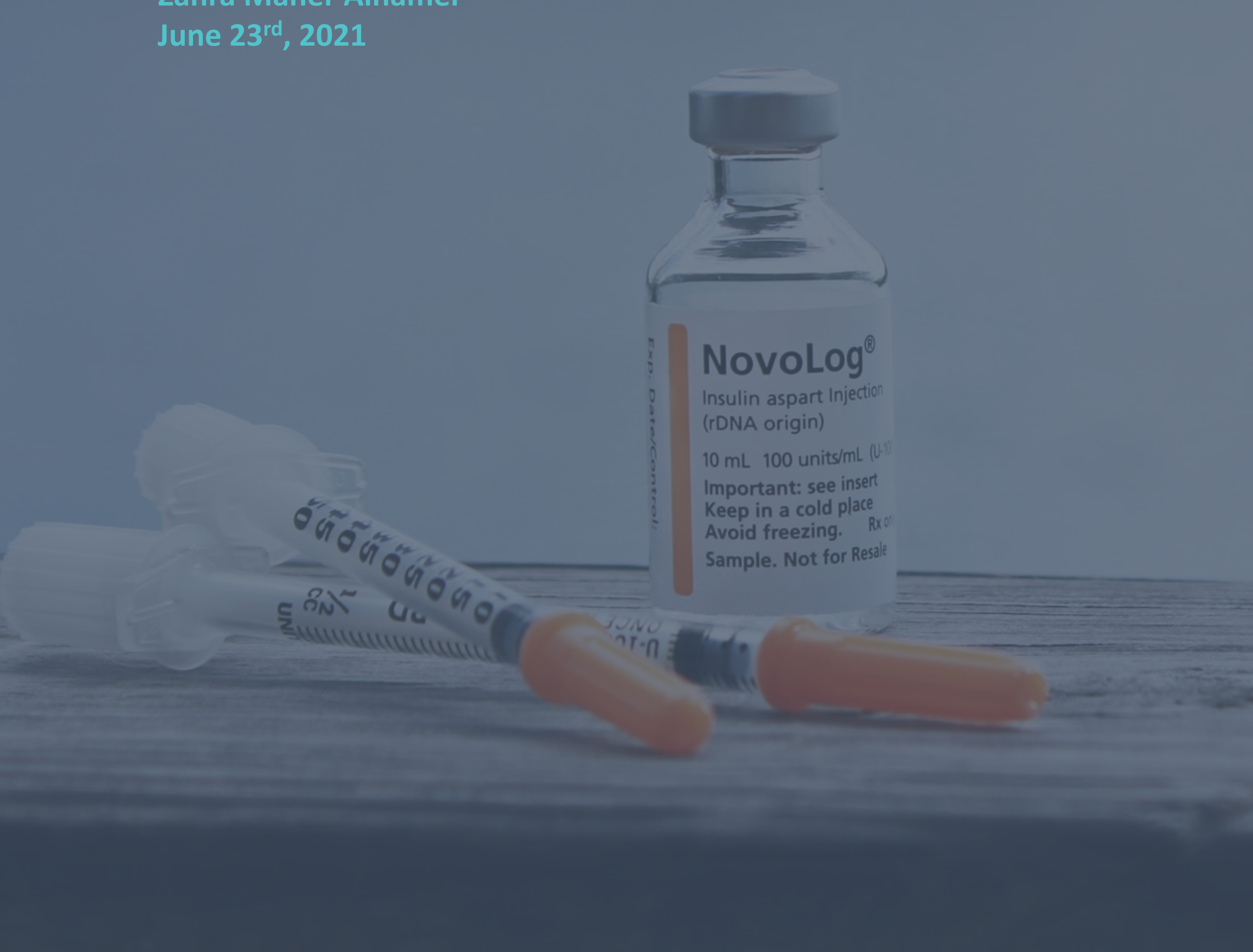


Splash Screen

1. What is it about?

It is splash screen that appears when the user open the app, it shows a logo, and loading icon

2. Action for users to take:

He will wait till the data loaded, and the **Welcoming Screens 1 and 2** will appear if this is the first time to open after downloading, else it will navigate to the **Home Screen**

3. Research finding applied to design:

Nothing

4. Design Principle(s) applied:

- The past experience shapes the user expectations, as any mobile app, it has a splash screen
- Peripheral vision in the design by using the loading icon motion

5. Design Rationale:

For any application, while the app loads the data it is better to start with a splash screen to annotate the user that the app is loading the data and it will open soon, and that is indicated by the loading icon.

Welcoming Screens 1 and 2

1. What is it about?

- Gathering the data for the user (name, weight, minimum normal glucose level, and maximum normal glucose level) is essential to decide their doses and the body values (diabetic values).
- The next button navigates the user to the next fragment to let the user complete data gathering
- The steps tracker icon indicating that there are more data need to be gathered or finished
- The Start button navigate the user to Home Screen.

2. Action for users to take:

Users need to enter their values. If the user misses entering any value, the alert dialogue box will appear to the userdepending on the missed values:

3. Research finding applied to design:

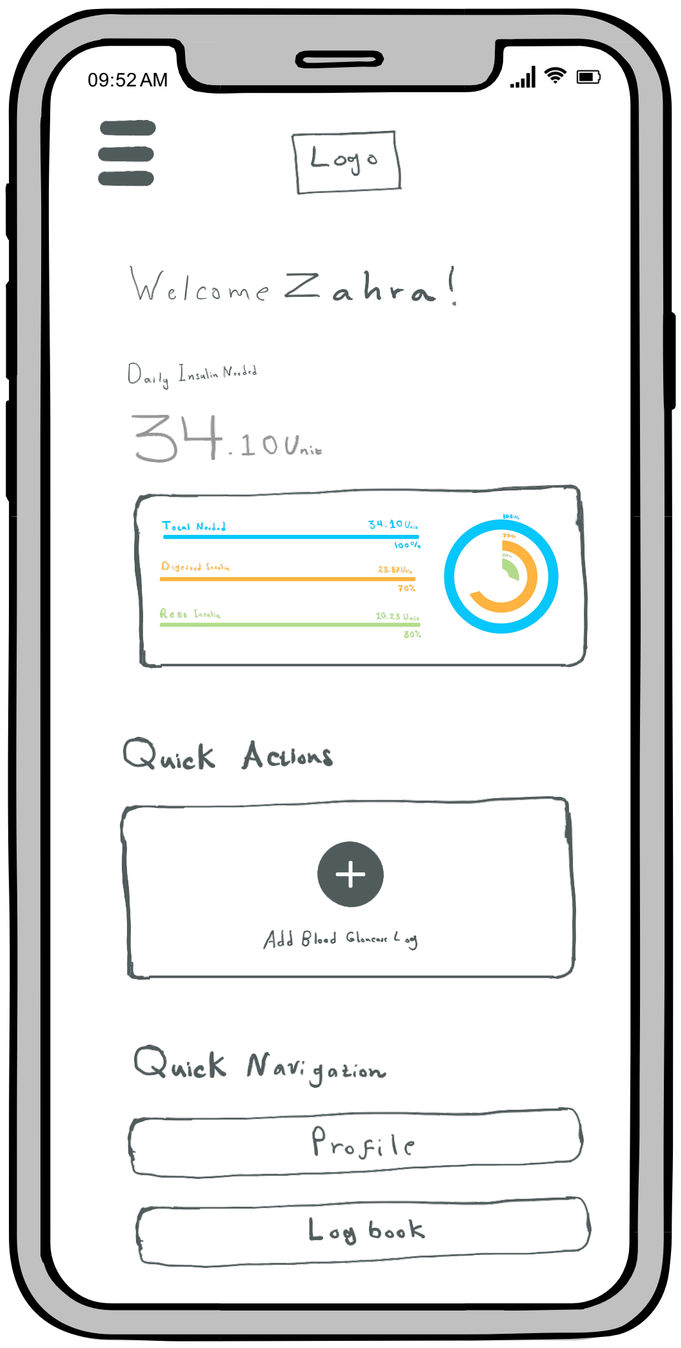
One of the key findings is the (Diabetic Education Gap: inability to calculate their body values (carb ratio, insulin sensitivity) and the other one is the (Inability to calculate doses and their needs of insulin), so we gathered those data to let the calculators later calculate their insulin doses and body values correctly.

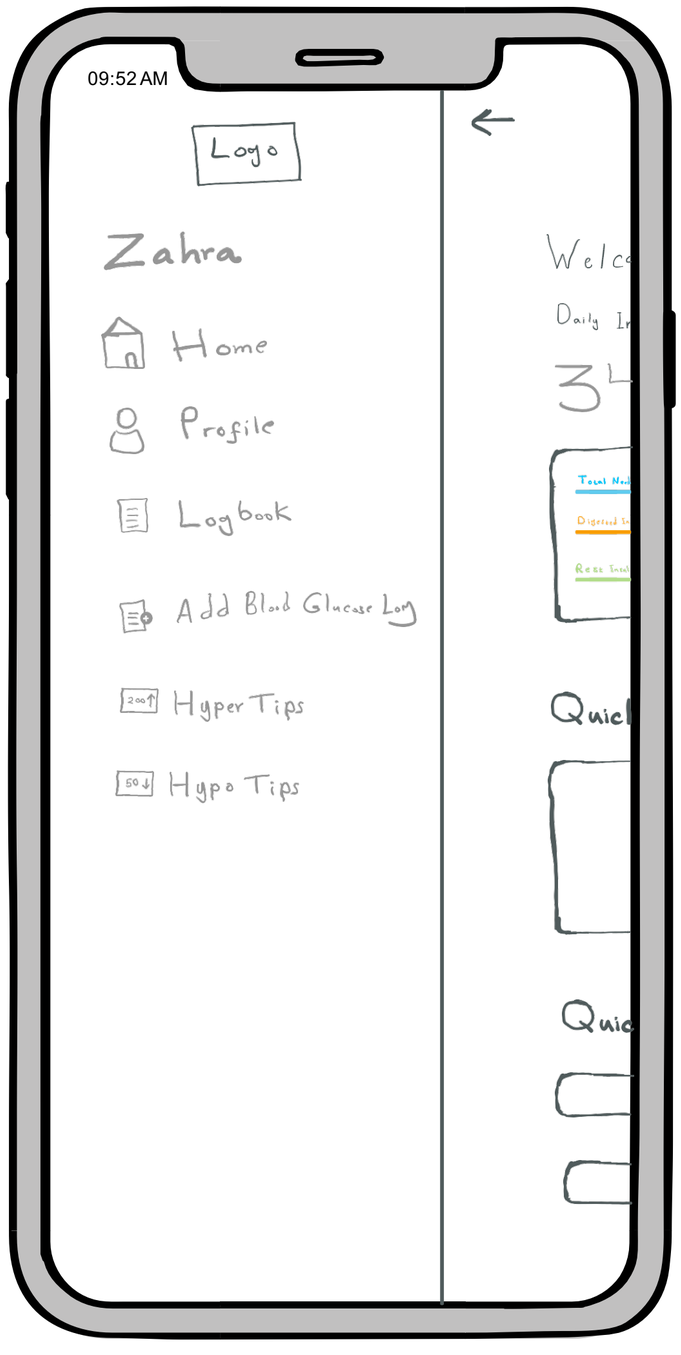
4. Design Principle(s) applied:

- Gestalt principles in design
- Design affects the user's emotions
- The past experience shapes the user expectations

5. Design Rationale:

Most of the apps gather the essential data in 2 or 3 screens after the first screen, and that is why it is done in this method





Home Screen

1. What is it about?

- The home screen shows the everyday insulin values (total insulin needed, the digested insulin, and the rest of insulin that the user has, and the graph shows the visualization for these values.
- The quick actions header has the Add Blood Glucose Log
- The quick navigation header has the Profile and Logbook buttons
- The Hamburger menu is giving the user the option to navigate to any place he wants from any screen in the app.

2. Action for users to take:

Users can decide what they want to do now, add a new log? or see his logbook history, or its profile. Also, they can to see more things from the hamburger menu.

3. Research finding applied to design:

Inability to calculate doses and their needs of insulin was the first finding, and we applied these recommendations:

- Adding daily need of insulin calculator
- The tracker of taken insulin and the rest value of insulin for them they can take

4. Design Principle(s) applied:

- Users don’t read; they scan by (Reduce word, Adding headers, Visualize concepts)
- The user has the choices and controls
- Gestalt principles in design

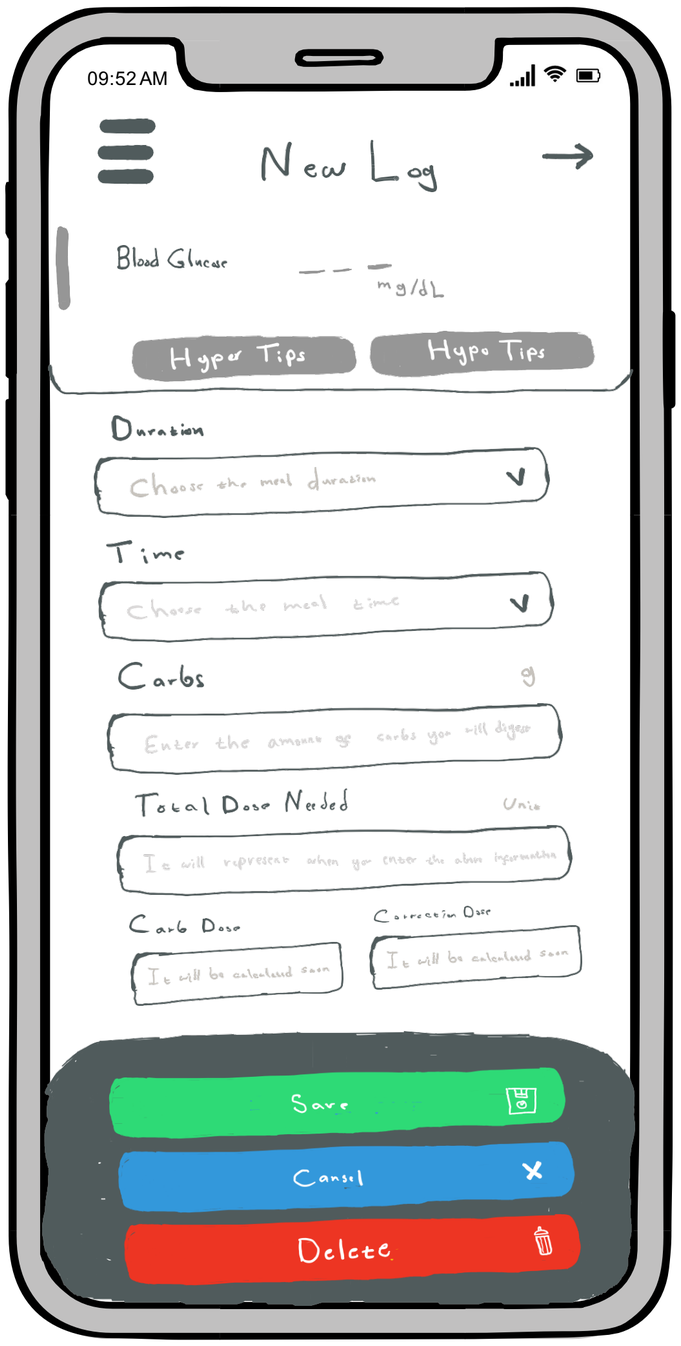
5. Design Rationale:

- By gathering the important things in headers, we help the users to scan and reduce their time to do what they need
- Giving them the control without too many choices, and they have the control in doing more things by using the hamburger menu.

Scientific Notes:

- **The total needed insulin per day** = (weight in Kg)*0.55

New Log Screen

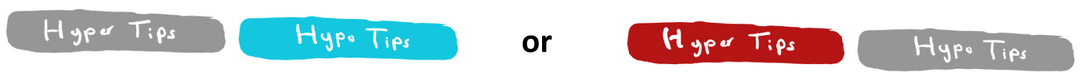


1. What is it about?

- Now, when the user check its blood glucose, wither he want to eat and he want to take a carb dose, or feel something wrong like hyper and need a correction dose, they will navigate to New log screen from the Home Screen by clicking on Add New Blood Glucose Log or from the Hamburger Menu
- They can enter the number they got from their device and the color of the tringle in the left will be colored like that depending on the blood glucose level case:

Hypo Case **Hyper Case** **Normal Case**

- Once they entered their blood glucose level and the carbs they will eat, the Carb dose they need will be calculated. Also, if they need a correction dose only it will be calculated, and if they need a correction dose while they will eat, it will carb dose and correction dose and will show every thing needed in the total doses
- Also, they can save the log or cancel and go back to Home Screen, or Delete the log after saving it directly by clicking on the button of the task they want
- The hyper tips and Hypo tips button will be activated with their colors depending on the blood glucose test level they entered, to to teach them how they can assist them self in the correct method like that:



2. Action for users to take:

They will need to chose the duration of the meal and time like that:

3. Research finding applied to design:

- Inability to calculate doses and their needs of insulin and we have applied the Adding calculator for each type of doses
- Assisting themselves in their hypo and hyper, by giving them the tips options.

4. Design Principle(s) applied:

- Gestalt principles in design
- Design affects the user's emotions
- Thinking is hard, reduce the thinking

5. Design Rationale:

- Grouping the time data together
- The coloring buttons and and lines for to indicate the good and bad cases
- To not let them overthink how to assist themselves, they can navigate to the hypo or hyper tips

Scientific Notes:

- **The carb (meal) dose** = Total carbs in meal / Carb ratio
- **The Correction dose** = (Hypo Blood Glucose Level – Minimum Normal Blood Glucose Level) / Insulin Sensitity Factor
- **Total Dose Needed** = (The Carb dose) + (The Correction Dose)

Logbook Screen

1. What is it about?

The user needs to record their logs of their glucose blood levels, and this is a logbook where they can see their records, by choosing the date of the logs they need to see, and they can see when they were in hypo, hyper, and the normal cases with a summary information.

2. Action for users to take:

They need to choose the date of the day they want to see its logs. And if they want to see a specific log info, they can clock on the log they want.

3. Research finding applied to design:

Nothing

4. Design Principle(s) applied:

- The user has the choices and controls
- Design affects the user's emotions
- Users don’t read; they scan by (Reduce word, and Visualize concepts)
- Gestalt principles in design

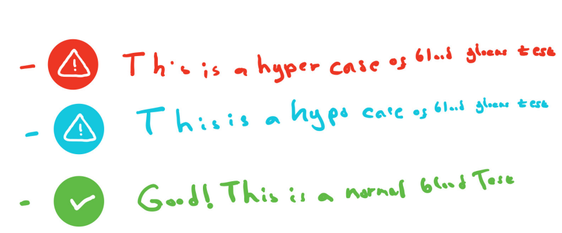
5. Design Rationale:

- The users have the choice and control by giving the user choice select to the date, and the log they need to see
- Applying the colors on the each log case (hyper in red, hypo in green, and blue for normal)
- They can scan each log values
- Grouping everything together and same space.

Log Screen

1. What is it about?

When the user needs to see a specific log from the logbook, they will chose a one from the logbook screen and this is what will appear to him as he entered before. Also, they can see when they were in Hypo or Hyper or normal by having those signs:



2. Action for users to take:

The user have the option to modify the log data and save it, or delete it, or cancel what they did if they modified it by selecting the task they need button's

3. Research finding applied to design:

Nothing

4. Design Principle(s) applied:

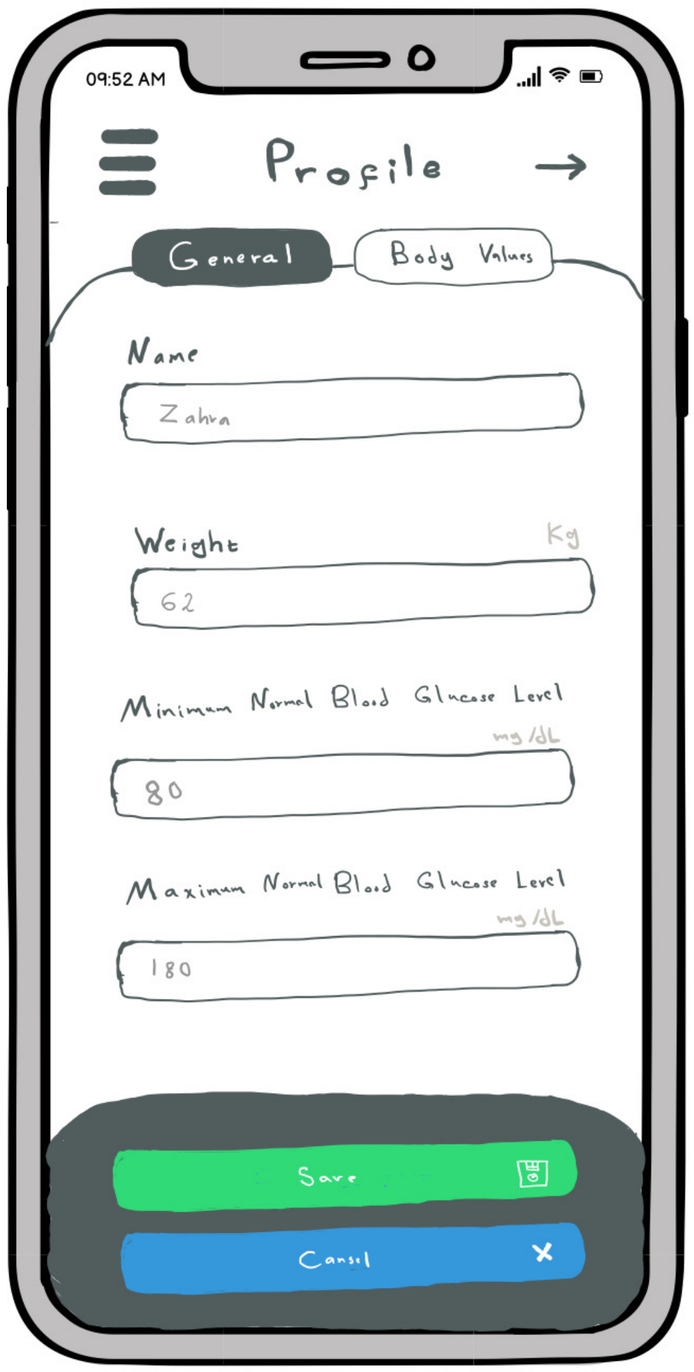
- Gestalt principles in design
- design affects the user's emotions
- Thinking is hard, reduce the thinking

5. Design Rationale:

- Grouping the time data together
- The coloring buttons and and lines for to indicate the good and bad cases
- It reduce the thinking, you don't need to remember when did they have hypo or hyper, or what amount they have taken of insulin

Scientific Notes:

- **The carb (meal) dose** = Total carbs in meal / Carb ratio
- **The Correction dose** = (Hypo Blood Glucose Level – 120) / Insulin Sensitity Factor
- **Total Dose Needed** = (The Carb dose) + (The Correction Dose)



Profile Screen

1. What is it about?

The user have the option to modify the log data and save it, or delete it, or cancel what they did if they modified it by selecting the task they need button’s.

If the users want to know or modify their body values, they can go to profile and find them. The General Tab Fragment id showing the name, wight, and the user's minimum and maximum normal blood glucose level.

If they want to see their bloody values, they can choose the Body Values Fragment, in which they can find their total insulin needs, the basal insulin needs, their carb ratio, and their Insulin Sensitivity Factor.

2. Action for users to take:

They need to decide if they want only to see their values, or if they modify them.

3. Research finding applied to design:

Diabetes Education Gap: inability to calculate their body values (carb ratio, insulin sensitivity), and we solve it by adding a calculator for those values and a little explanation of each needed value.

4. Design Principle(s) applied:

- Users don’t read; they scan and applying the Gestalt principles in design
- Thinking is hard, reduce thinking
- design effects on the user's emotions

5. Design Rationale:

- Grouping each set of values in a Tab
- Giving an explanation for the values they need to know
- Use Special colors for the buttons

Scientific Notes:

- **The total needed insulin per day** = (weight in Kg)*0.55
- **The basal needs of insulin** = (total insulin neeed per day)*0.40
- **Carb ratio** = 500/(total insulin neeed per day)
- **The Insulin Sensitivity Factor** = 1800/(total insulin neeed per day)

1. Navigating to Hyper Tips from the hamburger menu:

2. Navigating to Hyper Tips from the New Log screen :

Hyper Tips Screens 1 and 2

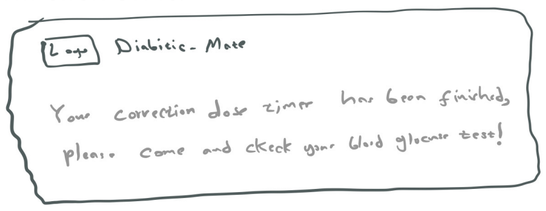
1. What is it about?

- Screen Number 1: When the user gets into a hyper from the hamburger menu, they will need to enter their blood glucose value and the correction dose will be represented after entering the value.
- Screen Number 1: When the use navigate into a hyper tips from New Log screen they will pass the blood glocuse level and the correction dose will be represented directly.

2. Action for users to take:

- They will need to follow the steps, and chick the correct button to be green, and press on start.
- In the second step to start timer. When the timer started, the timer will countdown and they can decide to Cancel it like that:

- When they go to another app, and the app still work in the background, a broadcast receiver will notify that the timer is done and they need to check the blood glucose level again like the below notification, and if the users want to go back to the app they will click on it:



3. Research finding applied to design:

Diabetes Education Gap: assisting themselves in their hypo and hyper, and solve it by applying the hyper tips as recommended in the research report.

4. Design Principle(s) applied:

- Thinking is hard, reducing the thinking
- Users don’t read; they scan (Add headers, and concepts visualization)
- Giving Choices to the user
- Apply Gestalt principles in design
- peripheral vision in the design
- design effects on the user's emotion

5. Design Rationale:

- They will not need to remember what was their blood glucose level, it will be passed directly.
- Categorize the tips in groups and the progress could be checked by green color, stop by the red.
- Giving the user choice so start or stop the timer.
- The groups and spaces are equal
- The motion is applied on the timer
- The colors of the progress and buttons

Hypo Tips Screen

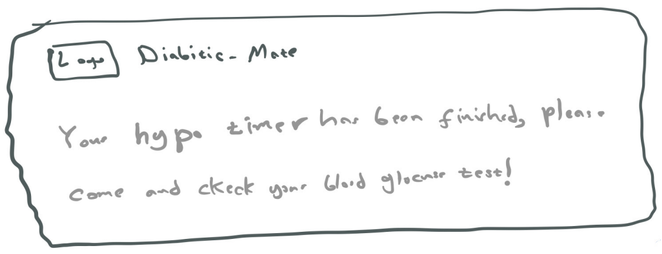
1. What is it about?

When the user gets into a hypo case, they will need to apply the 15:15 rule. This screen is giving them the tips to assist themselves by applying this rule.

2. Action for users to take:

- They will need to follow the tips, and chick the signs, and start the timer.
- In the second step to start timer. When the timer started, the timer will countdown and they can decide to Cancel it like that:

- When they go to another app, and the app still work in the background, a broadcast receiver will notify that the timer is done and they need to check the blood glucose level again like the below notification, and if the users want to go back to the app they will click on it:



3. Research finding applied to design:

Diabetes Education Gap: assisting themselves in their hypo and hyper, and solve it by applying the hypo tips as recommended in the research report.

4. Design Principle(s) applied:

- Users don’t read; they scan (Add headers, and concepts visualization)
- Giving Choices to the user
- Apply Gestalt principles in design
- peripheral vision in the design
- design effects on the user's emotion

5. Design Rationale:

- Categorize the tips in groups and the progress could be checked by green color, stop by the red.
- Giving the user choice so start or stop the timer.
- The groups and spaces are equal
- The motion is applied on the timer
- The colors of the progress and buttons