**DIABETES**

**DIABETES IS ON THE RISE**

**3.7 MILLION**

Deaths due to diabetes and high blood glucose

**1.5 MILLION**

Deaths caused by diabetes

**422 MILLION**

Adults have diabetes

**THAT’S 1 PERSON IN 11**

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**TREATMENT**

Patient measures own blood sugar level

Patient calculates required Insulin(medicine) dose based on measurement

Patient adjusts Insulin dose in his/her Insulin pump

Repeated several times a day by the patient himself/herself

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**CHALLENGES**

- The patient has no medical skills. So, measurement, calculation and insulin administration done by patient himself/herself is risky. A mistake by the patient could cause a potential risk of insulin deficiency/overdose
- Time and energy spent by the patient on these repeated activities affects quality of life

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**THE SOLUTION**

- A ‘connected’ insulin device worn by the patient.
- An experienced medical professional to remotely monitor the patient and provide required medication(insulin) using these ‘connected devices’
- An AI(artificial intelligence) system can learn from generated data/patterns to provide automated diabetes care to the patient
JOHN
The Patient
“I want Emily, my medical assistant, to take care of my diabetes so that I can focus on things I love doing”

About
- Age 34
- Father, Husband, Marketing Executive.
- Type 1 Diabetes for 4 years
- I was an athlete in college and love swimming & cycling
- I have a busy work schedule running from meeting to meeting.

Main Goals
- I am aware of the risk of long-term diabetes complications, so I would like to maintain my blood glucose level as close to normal as possible.

Pain Points
- I am not confident of preparing and administering my own insulin (medicine) dose, I often require support from Emily, my medical Assistant.
- I find the repetitive activity of measuring, calculating and giving insulin dose very frustrating
- I sometimes forget to buy insulin cartridges and skip my required dose due to it

EMILY
The Caregiver
“I want my patients to get the best diabetes care from a trained professional like me”

About
- Age 29
- Certified Diabetes Assistant
- Tech-Savvy, comfortable with mobile and computer applications

Main Goals
- I am aware of the risk of long-term diabetes complications, so I would like to maintain my blood glucose level as close to normal as possible.

Needs
- I need to see real time and historical data of my patient’s blood sugar levels
- I need the option to adjust the insulin dosage of my patient.

Responsibilities
- I organize, interpret, intervene, and monitor care of diabetic patients.
- I also provide telephonic support to my patients when they have questions regarding measurements or dosage.
- I evaluate and escalate priority cases to the relevant doctor.

Pain Points
- The patient has to tell me his current sugar levels over phone after measuring it himself OR The patient must visit our office to provide his blood sample
- I am not sure if the patient follows our instructions about measurements and dosage without mistakes, it’s risky!
Emily’s Point of View

As a Diabetes Assistant

I need a way to

- Read John’s blood sugar levels
- Administer the correct insulin dosage
- Deliver new insulin cartridges to John’s residence when his cartridge is running low on insulin

So that

- John’s blood sugar levels are continuously under control
- John does not have to worry about his diabetes knowing that professionals are taking care of it

John’s Point of View

As a Diabetes patient

I need

- A service that manages all the aspects of Diabetes care for me

So that

- I don’t have to worry about my Diabetes and focus more on things that I love – my work, my family etc…
### UX Journey

#### John’s UX journey during self-care

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>Measure</th>
<th>Calculate</th>
<th>Calibrate</th>
<th>15 minutes later...</th>
</tr>
</thead>
<tbody>
<tr>
<td>After waking up in the morning OR Just before driving to my office OR Just before walking into an important meeting OR...</td>
<td>Prick finger&lt;br&gt;Place blood sample on glucose monitor’s strip&lt;br&gt;Read blood sugar level</td>
<td>Calculate Insulin dose</td>
<td>Change Insulin pump setting from 3 U to 4.5 U</td>
<td>Time to prick my finger again, which finger do I prick now? I hate this!!! My blood sugar level is 350, that’s higher than the last time! I hope I am not making a mistake in my calculation. Should I call up Emily to get this verified? Finally! My new setting must be 4.5 U</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MINDSET</th>
<th>FEELING</th>
<th>TOUCHPOINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am tired and drowsy. My blood sugar level must be high again. Should I wait till this meeting is over OR till I drive to my office OR till I finish this work ...before I measure my blood sugar level and take my insulin dose?</td>
<td>😞</td>
<td>Glucose monitor&lt;br&gt;Calculator&lt;br&gt;Smartphone&lt;br&gt;Insulin pump&lt;br&gt;Smartphone</td>
</tr>
<tr>
<td>Time to prick my finger again, which finger do I prick now? I hate this!!! My blood sugar level is 350, that’s higher than the last time!</td>
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### Conclusion

John clearly doesn’t like the activities involved in self-care, nor does he completely understand it. At the same time, Emily is keen to help but does not have the necessary tools.
Prototype

John is provided with a new connected device accessible by Emily and her team of professionals.

Emily gets complete real-time and historical view on John’s condition and can take actions on John’s device using the app.

If the BUILD URL provided above doesn’t work, please copy-paste the Build URL directly in the browser.

![Blood Glucose History Graph](image-url)