



Dashboard for Visualising Infusion Pump Data

Client: Gemma Renshaw, GOSH



Daulet Batayev

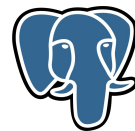
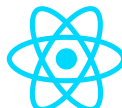
Henry Ching

Tianang Chen

daulet.batayev.19@ucl.ac.uk

henry.ching.19@ucl.ac.uk

tianang.chen.19@ucl.ac.uk



Motivation

- Infusion pumps deliver nutrients and medications into a patient's body in controlled amounts.
- GOSH has no digital system in place to monitor that feed data.
- Often it is unclear if the patient is achieving the prescribed amount of feed.
- False positives about the efficiency of the treatment plan.
- Visualising the feed data will help clinicians get insights into the patient's body and adjust the treatment plan accordingly.



Proposed Solution

Scalable web application for visualising the infusion pump data.

- **Dashboard**
 - Visualising the data, comparing current values to prescribed values
- **System Intelligence**
 - Spot anomalies, i.e., spikes in rate.
- **Patient Treatment History**
 - Clinician can review past data and compare it with feed current rates.
- **Feedback system**
 - Patients can provide explanations to the changes in feed.

User Interface

Sign In

UserID

Password

[Continue](#)

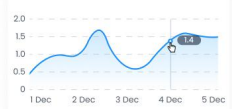


My Patients

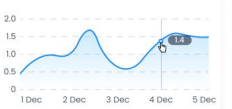
[Notifications](#) [Settings](#)

Search patient Show: Daily ▾

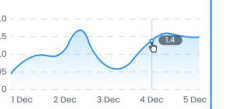
J. Smith Show: Flow rate/time ▾



N. Scott Show: Flow rate/time ▾



K. Johnson Show: Flow rate/time ▾

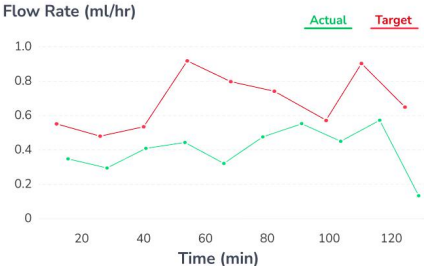


James Smith's Dashboard

[Back](#)

Select Graph
Flow Rate Over Time ▾

Flow Rate (ml/hr)



Time (min)	Actual (ml/hr)	Target (ml/hr)
0	0.35	0.55
20	0.30	0.50
40	0.40	0.55
60	0.35	0.80
80	0.45	0.75
100	0.45	0.60
120	0.15	0.65

System Notifications

11.08.2020 (12:05pm): Flow Rate is abnormally low

07.08.2020 (5:30pm): Flow Rate is 80% below target

[Change Treatment Plan](#)

Notifications

[Back](#)

Flow rate abnormally high ×

12:05 11th August, 2020

Actual flow rate is 65% greater than the prescribed feed

Flow rate below target ×

17:30 07th August, 2020

Actual flow rate is 80% lower than the prescribed feed

Implications

- **Dashboard** helps clinicians get insights into the patient's treatment.
- The **system intelligence** can uncover patterns from long-term data.
- Data analysis helps creating **tailored treatment plans**.
- The entire treatment process is permanently stored in a database.

Thank you!

- **GitHub**

<https://github.com/COMP0016-Team6>

- **Development Blog**

<https://comp0016-team6.github.io/Dev-Blog/>