Reviewing exercise 8

Behaviour modelling and prediction from interaction logs

The task last week was to use modelling to predict how the given users would be able to use the two different keyboard layouts for mobile phone texting using one finger.

1)

Estimating A and B values for user 1 and user 2 with lowest error rates

2)

Calculating typing times of the two users for Dvorak and Qwerty

3)

Coming up with an alternative scenario where modelling could be beneficial

Results

158 returned assignments

Score distribution to come later.

Features of excellent answers

1) Parameter estimation

Described the process, provided the final values and reflected on the potential age group of the users.

Multiple strategies could be used:

- Finding the natural range for parameter B from the slides, and for parameter A referring to cycle time of the motor processor. Then using grid_search function to identify the combination with the smallest error rate
- Manual trial and error

1) Parameter estimation

The possible range of values was not unlimited (the slides gave some good indication for a range for older and younger users).

Values can not be zero or negative, as they express time.

Features of excellent answers

2) Forward modelling	Provided typing times in seconds for user 1 and User 2, for both Dvorak and Qwerty keyboards

Features of excellent answers

3) Reflection

Suggests a **concrete scenario** where a user model can allow developers/ researchers/designers to study “what-if” situations and find how users would behave in them, because they have a good model of users’ behaviour.

Good examples: assignment 4’s grid layout problem; dangerous situations where you can not test alternatives

Why is Dvorak slower?

	User 1	User 2
Dvorak	9.47860638220759	18.60110251310471
Qwerty	7.876512104867096	15.688203827031082

Answer: Dvorak is optimized for two-hand typing, but our model was used for predicting typing with one hand