

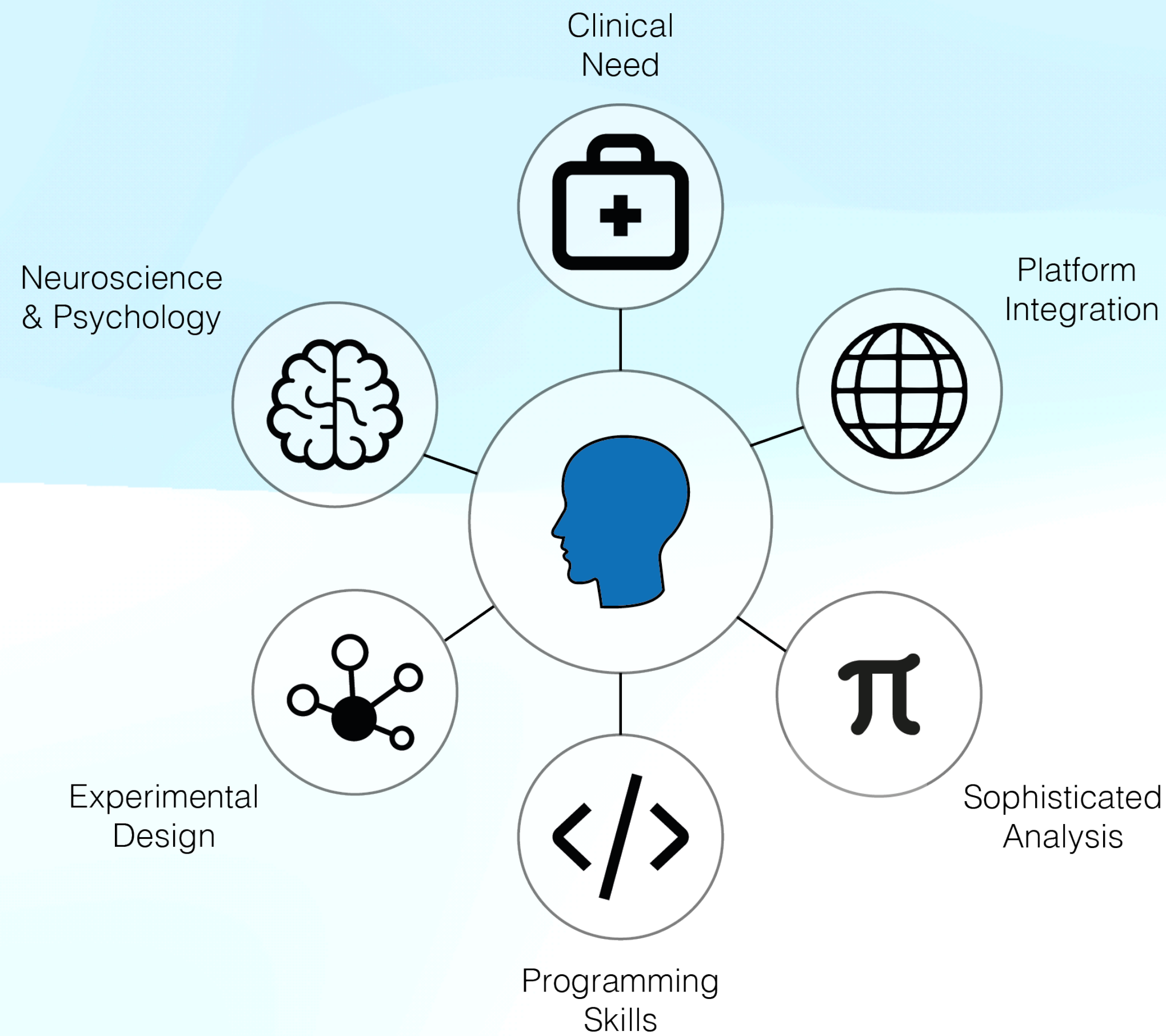
Hypatia

Health modelling, made simple

Team Hypatia | Wellcome Trust Ideathon 2023



We can't be experts at everything

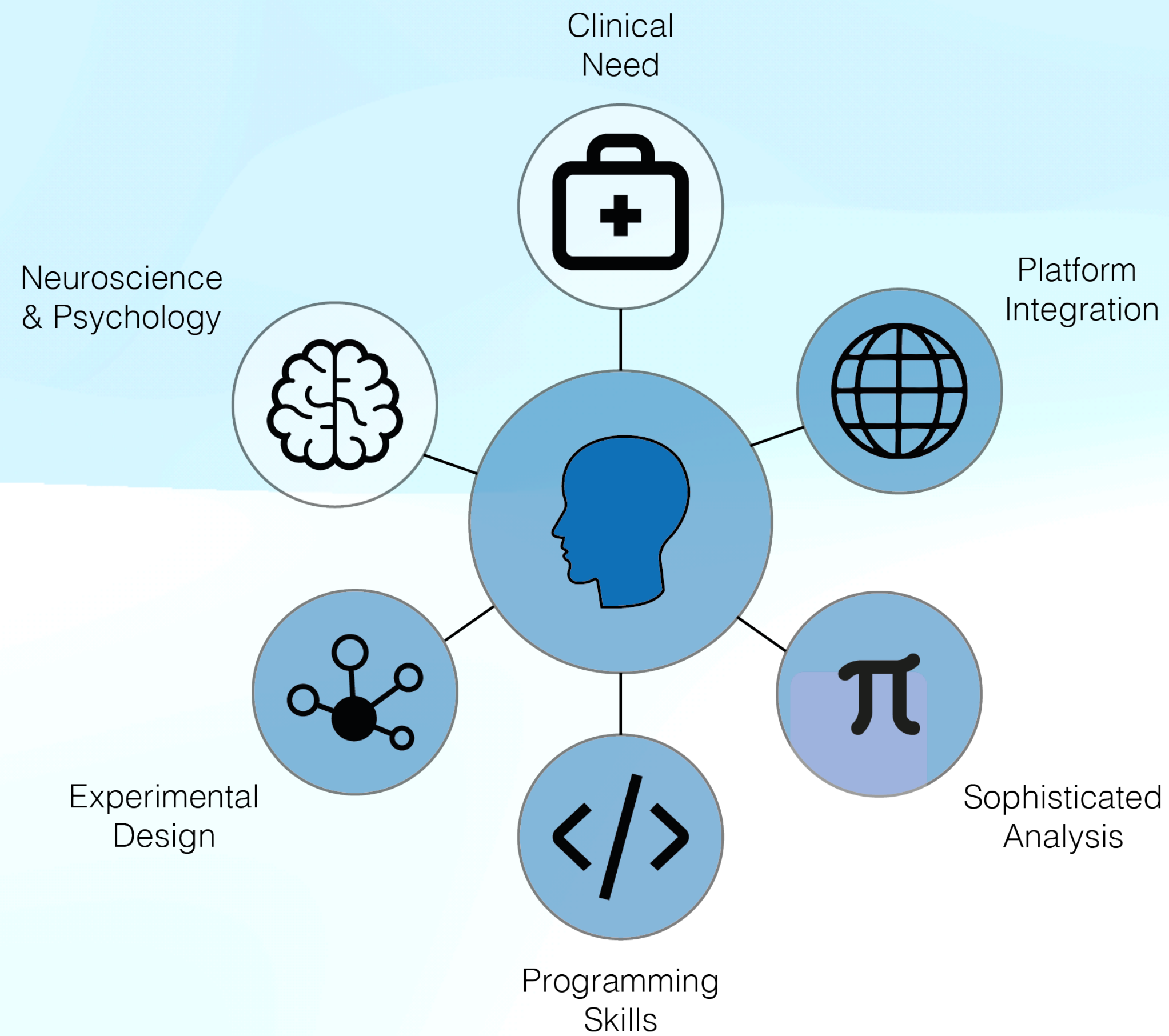


Personalised treatment is a key component of modern psychiatry

Understanding the mechanisms being addressed in a digital intervention is key

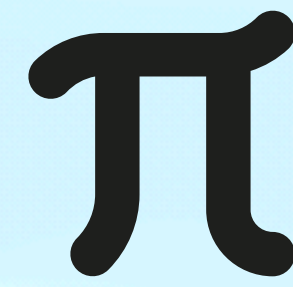
Computational phenotyping has been suggested as a precise, scalable, dynamic method to accomplish these goals, but barriers to entry are high.

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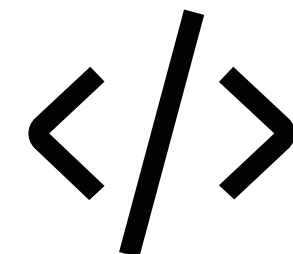
We take the analytic load off your shoulders



Robust, rigorous mathematical and statistical models



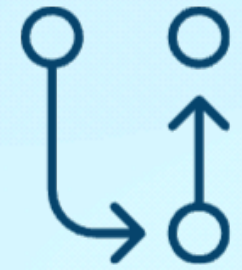
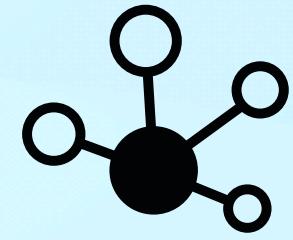
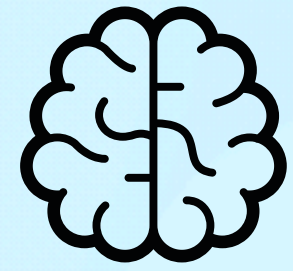
Design prompts informed by those with lived experience



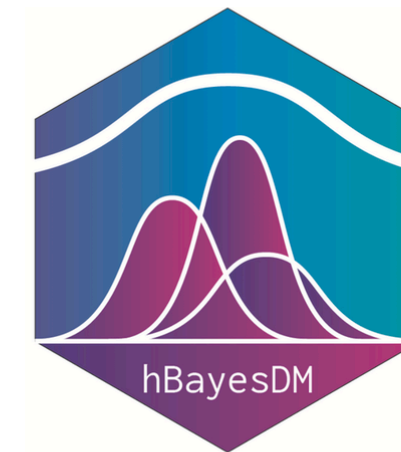
Cutting edge developments and best practice in open, cognitive science

How does your tool help mental health researchers develop digital interventions?

We do the hard coding so you don't have to

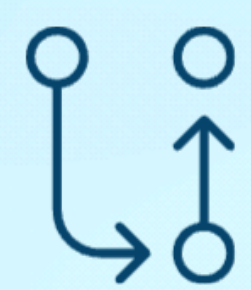


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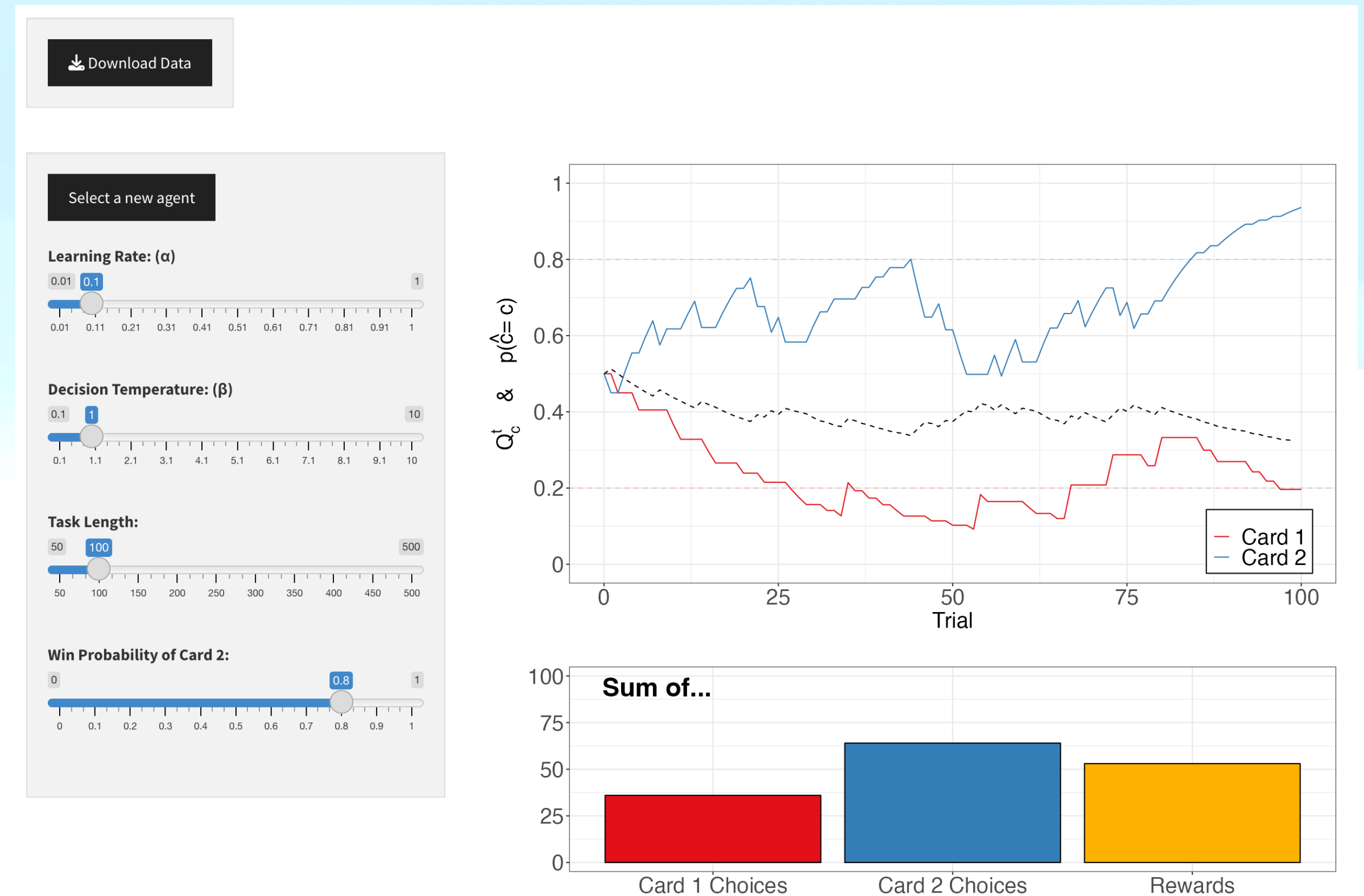


How have you minimised the programming expertise required to interact with your tool?

We do the hard coding so you don't have to



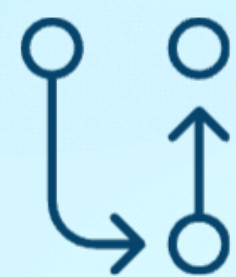
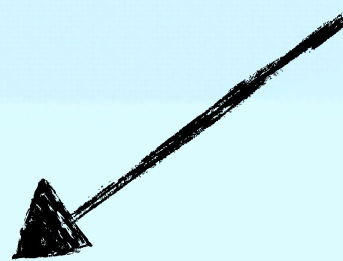
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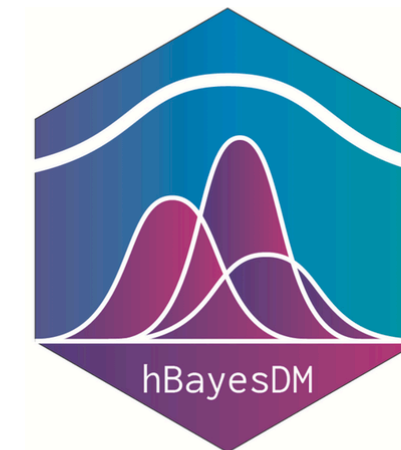
How have you minimised the programming expertise required to interact with your tool?

Hypatia is compatible with existing technologies

qualtrics^{XM}



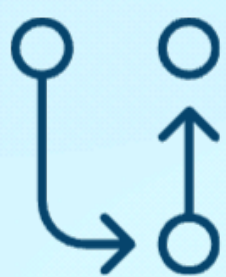
Hypatia
Health modelling, made simple



How does your tool integrate with existing tools, frameworks, or platforms that researchers might want to use when developing digital interventions?

Hypatia is compatible with existing technologies

qualtrics^{XM}



Hypatia

Health modelling, made simple



Upload a .csv file of your behavioural data. It needs at least one column called 'choice' and another called 'reward'. If you have more than one participant, please add a column called 'id':

Choose CSV File

Browse... data.csv

Upload complete

Number of chains

0 4

Number of samples

500 2,000

Optimize Parameters

Optimized parameters

Note: the square brackets refer to each participant id.

alpha[1]	alpha[2]	beta[1]	beta[2]
0.7446793	0.7363290	2.1948794	2.4667189

Minimum log likelihood per participant

The closer this is to zero, the better.

loglik[1]	loglik[2]
-15.74865	-15.80407

Rhat value for each optimized parameter

This should be below 1.01, ideally.

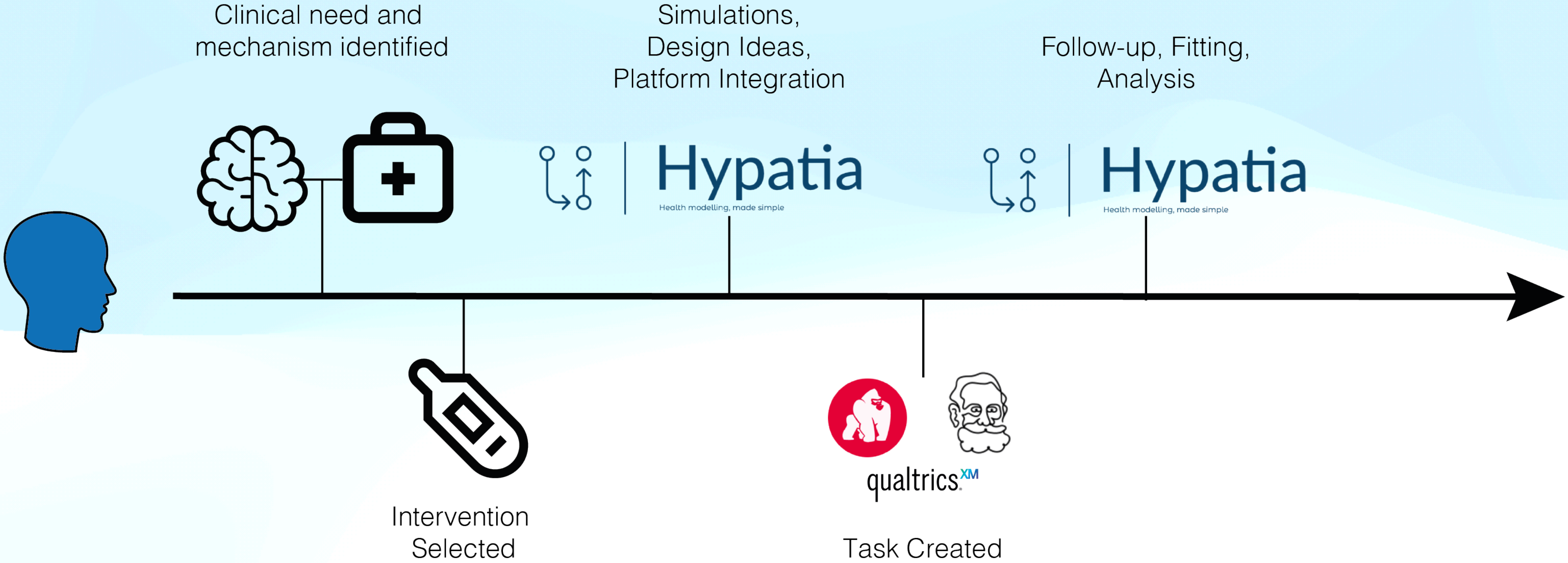
alpha[1]	alpha[2]	beta[1]	beta[2]
1.002234	1.005041	1.000930	1.014001

Traceplot for log posterior

This should look like lots of furry caterpillars in different colours.

How does your tool integrate with existing tools, frameworks, or platforms that researchers might want to use when developing digital interventions?

User journey



Our vision of tomorrow...



1. Allow experimenter accounts and experiments to track participants over time.
2. Allow modelling frameworks to account for these repeated measures in phenotyping.
3. Design prompts from those with lived experience.
4. Training versus tracking modules
5. Integrate more closely with popular experiment platforms to have ready-to-go models matched with their task offering

To do this we will....



Development: Recruit a PDRA to manage the development of the prototype over the next year, and to implement new models and environments.

Consultation: Consult with those with lived experience, UX/UI designers, and experts in digital mental health to prioritise the implementation of new models, environments, and aesthetics of the platform.

Integration: liaise with experimental platforms to enable easy translation between task environments and modelling output.

Output: Produce a white paper/academic outputs outlining our approach to interactive, user friendly modelling to reduces barriers to access.

Why we're the team to lead this...



Working on the cutting edge of computational theory, assessment and implementation

Large network of international collaborators

Key links with experts by experience

Thank you

