N-of-1 : Personalized Wellbeing

Distributed, very private data controlled by individuals, processed by deep learning

Paul Houghton, paulirotta@gmail.com Dr Leo Khirug, leonard.khirug@helsinki.fi

Lead use case: Dry EEG+Deep Learning

We help researchers and users (data owners) collect, store and process sensitive information

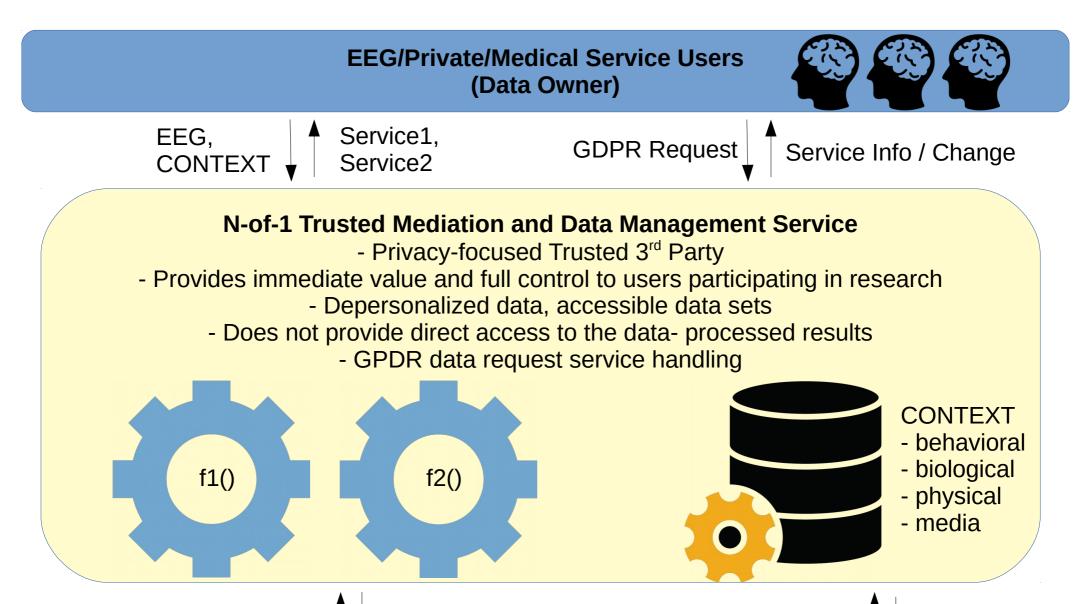
Example: Medical study on improving attention and managing stress using in-home EEG

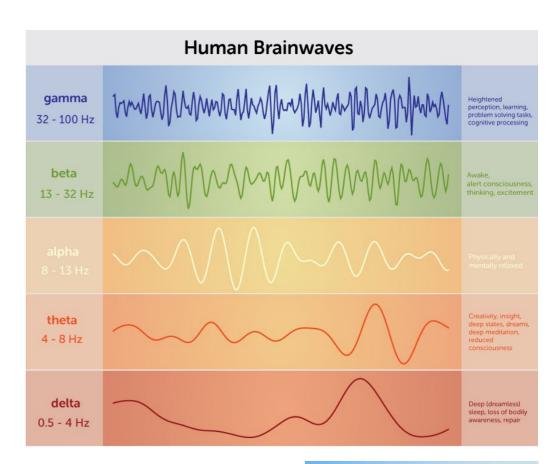
Value to

User : **agency**- full control of sensitive personal information Researcher : wider data **access**, secure data handling, shift data management and admin responsibility

Research questions:

Can we enhance individual agency (GDPR) over sensitive data with modern networking? Can multiple data sources be integrated or even stored and processed near the edge efficiently? What is the simplest architecture supporting user choice and control when supporting distributed, secure services trained on large data sets?







[Service2..] [Analytics..]

[Service1..] "f2(EEG, CONTEXT) \rightarrow Service2"

"f1(EEG, CONTEXT) → Service1"

Pre-Competitive Corporate Research (Analysis Process Owner)



Academic Research (Analysis Process Owner)