Decentralised User Modelling and Personalisation

From server to human

Centre of user activity is the web browser

Decentralised **user modelling**

- User has all the data client-side
- User model is created directly on the client

Decentralised **personalisation**

- Personalisation is done client-side and possibly collaboratively by multiple users

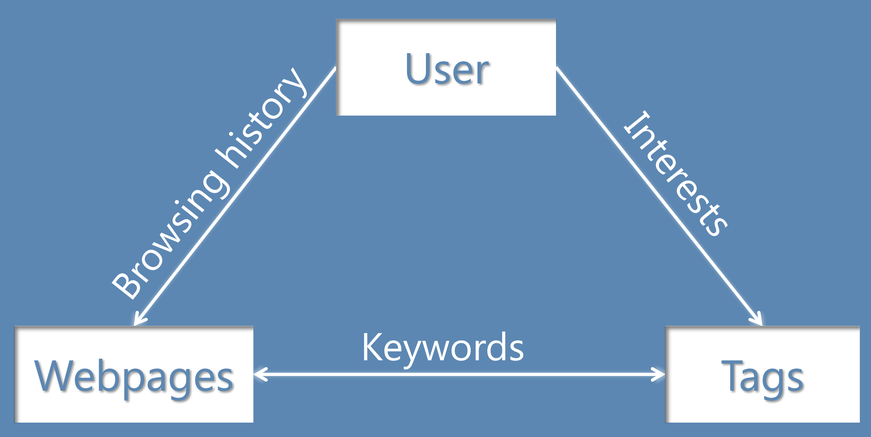
Indexing user model

User interests tree (modified radix tree)

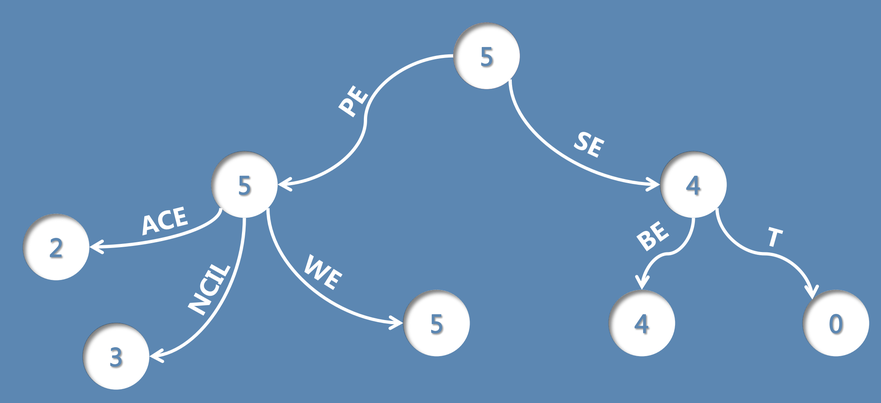
- **Global** user interests
- Tag retrieval in $O(m)$
- First k most relevant tags in $O(m \times k \times \log_2(m \times k))$

Domain interests tree (modified suffix tree)

- **Local** user interests
- Almost full-text URL search in $O(m)$
- First k tags for given regex in $O(m \times k \times \log_2(m \times k))$



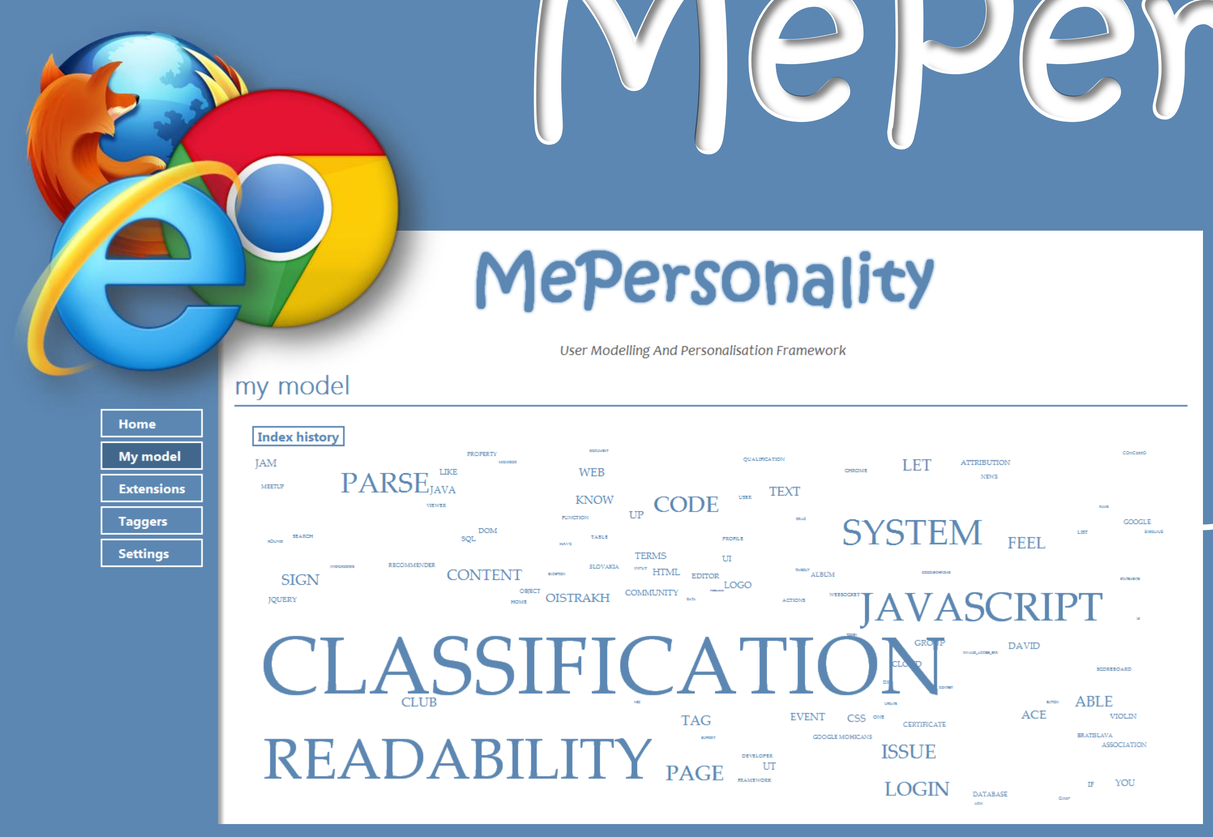
Modelling the user

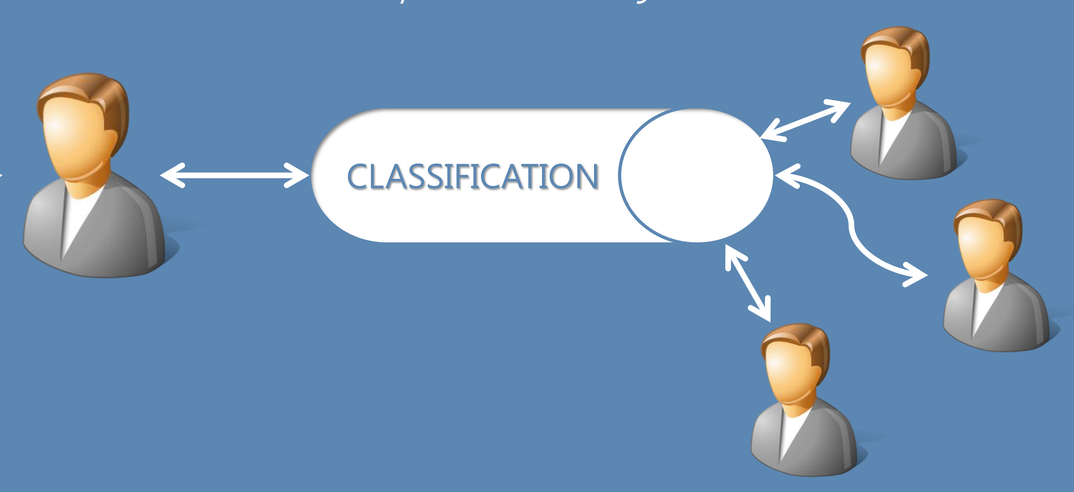


Modified radix tree

MePersonality

or Distributed Adaptive Proxy





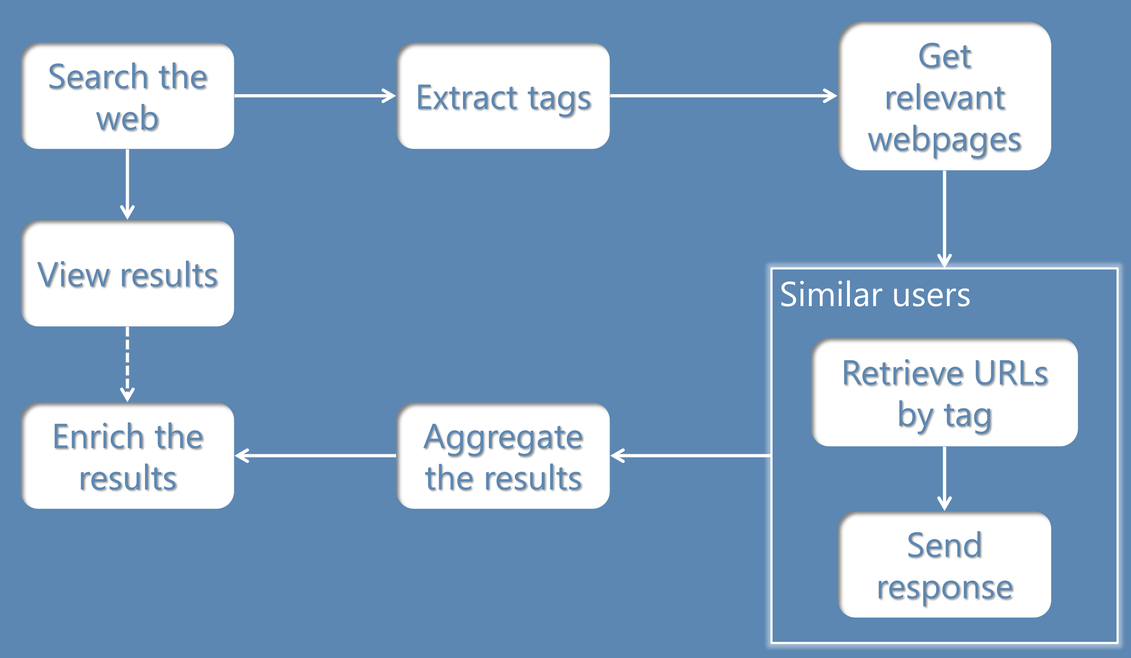
Personalisation extensions

- Pieces of JavaScript code
- Use of external JS, XHR, persistent storage via database API, personalisation API and communication API (channelled multicast)

Taggers

- Like extensions, differ by interface

Personalised search



Tomorrow: Map-Reduce in JavaScript?

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