Big data powered life science research

Developing a user-friendly web-based research platform

Global aging

Currently there is a trend that the human population is aging, which increases the chance on diseases that comes with aging. This puts a strain on the current healthcare system, as the aging society need more intensive care. Therefore it is vital to invest in research for promising therapies as these developments and innovations are needed to fight complex diseases and keep the healthcare system affordable. The discovery and development of therapies and drugs however are increasingly resource intensive.

### Accelerating drug discovery

Within the field of life science research, the number of new discoveries and the amount of knowledge is increasing each day. This growing library of knowledge should make it easier for researchers to uncover the mechanisms of complex diseases. But finding and connecting the dots becomes more difficult if the method of searching within this library of knowledge doesn't become more intelligent.

The Euretos knowledge platform

By transferring the library of knowledge to a big data environment, the dots are already connected in a big network. It's up to the researchers to interpret the network and look for the missing connections. Statistical analysis then can help to predict which missing connections might be the most interesting target for research, leading to genuine new knowledge and possibly to new drugs to cure or prevent diseases, while reducing the costs for performing research.

The relation map

Creating a user friendly interface lowers the threshold for life science researchers to start using big data as a method to explore, find and expand knowledge. Based on research with life science researchers, a user interface was designed to fit their needs. The relation map is a tool which can be used to visually construct and expand disease mechanisms. New found knowledge can directly be put into perspective, leading to a better understanding of specific bio-mechanisms.
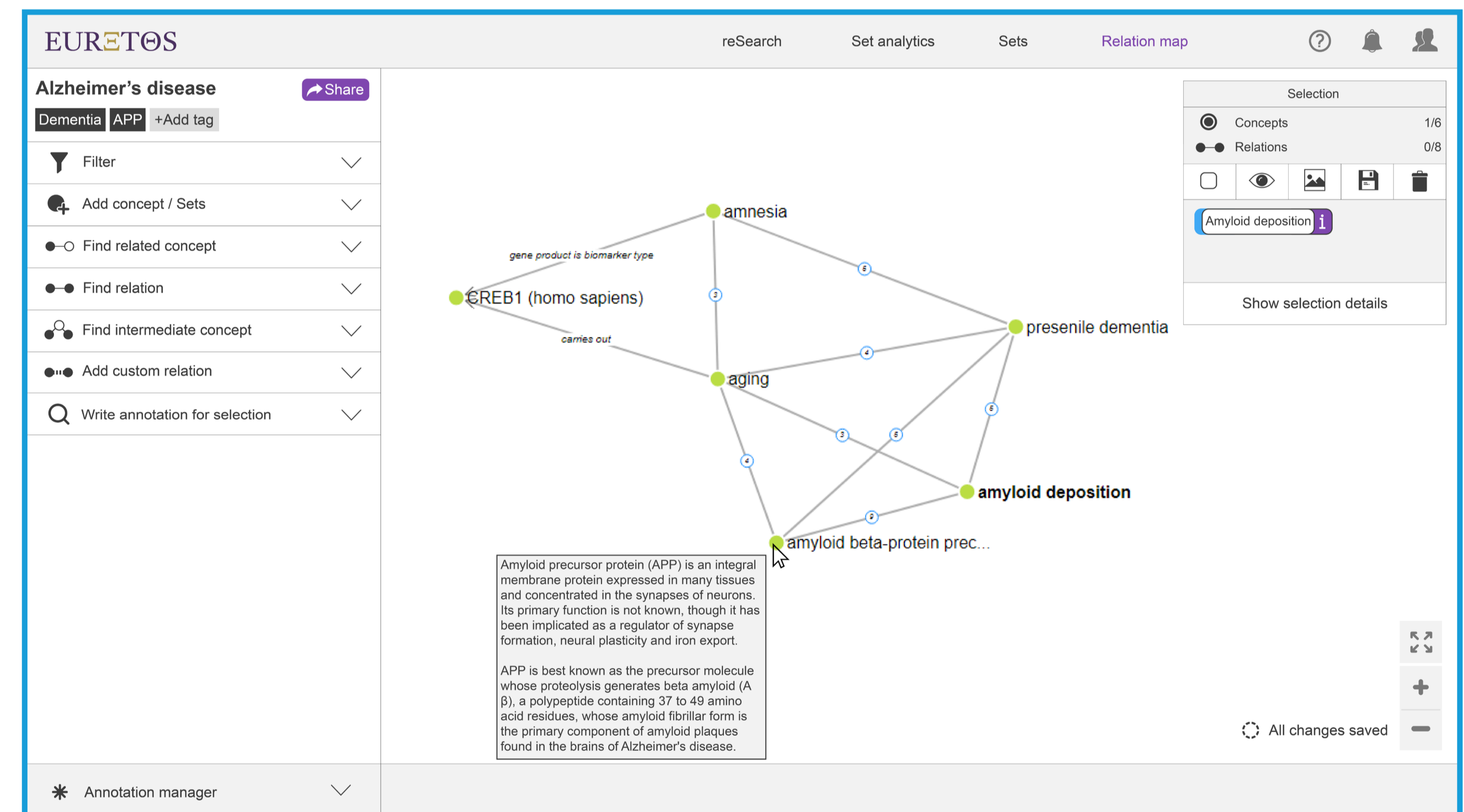
Relation model of alzheimer's disease constructed with the Euretos knowledge platform

Ashwin van Dolder
Research in drug development: Developing a user-centered web platform for Euretos
17 August 2017
Strategic Product Design

Committee   Dr. ir. L.W.L. Simonse
             Dr. B. Eisenbart

Company   Drs. A. Krol, Euretos

Faculty of Industrial Design Engineering

Delft University of Technology