Interactive psychological analysis methods within a web-based intervention for wellbeing management

Kirsikka Kaipainen[1], Elina Mattila[1], Antti P. Happonen[1], Raimo Lappalainen[2], Henna Tuomela[2], Päivi Lappalainen[2], Aku Kopakkala[3], Antti Väätänen[1], Ilkka Korhonen[1]

1) VTT Technical Research Centre of Finland,
2) University of Jyväskylä,
3) Mehiläinen Health Care Services

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Business from technology

Background

- Mental health issues caused by stress and work overload are increasingly common
  - Lead to chronic health problems and loss of productivity
  - People need to learn methods to cope with stress
- Lack of resources in healthcare
  - Need for novel treatment solutions such as web-based interventions
- P4Well = Pervasive and personal psychophysiological wellbeing and recovery management concept

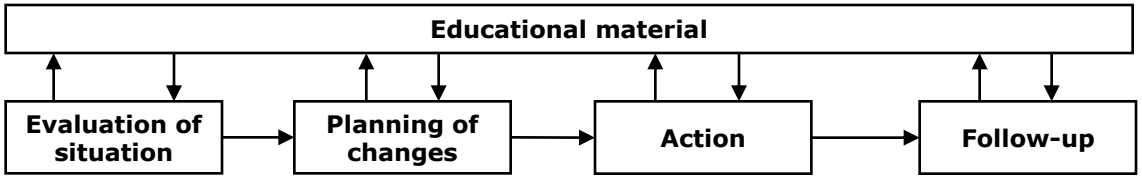
P4Well service concept

- Web-based intervention and personal health technologies (mobile applications and wearable devices)
- Short face-to-face intervention consisting of three group meetings
- Homework between the meetings
- Role of the portal: in-depth analysis and assessment of life situation, problems and required changes
- Role of devices: self-monitoring, support in tracking goals

Web-based intervention

- Based on cognitive-behavioral therapy (CBT), acceptance and commitment therapy (ACT) and interpersonal therapy (IP)

- Modules on different themes of wellbeing: stress, sleep, exercise, good life, relationships
- Modules divided into phases loosely based on Transtheoretical model
- Relevant analysis tools within each phase
- Educational material available throughout the modules

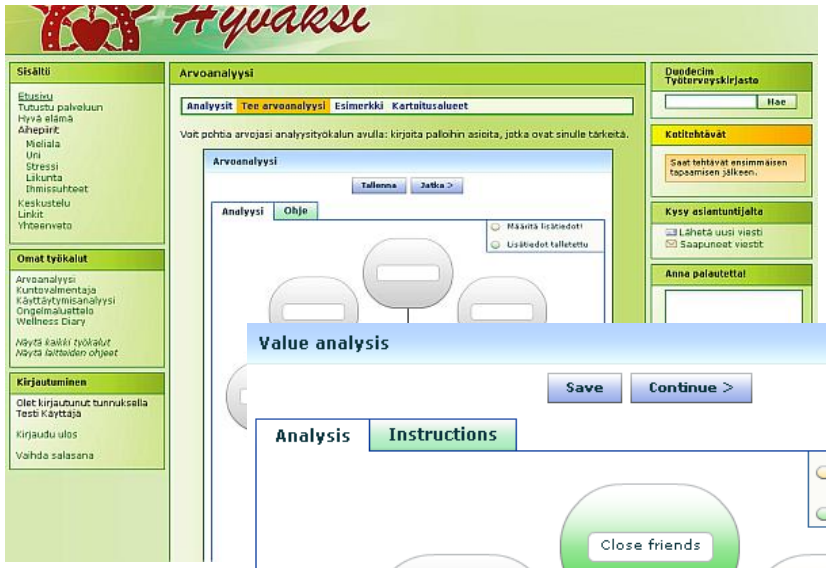


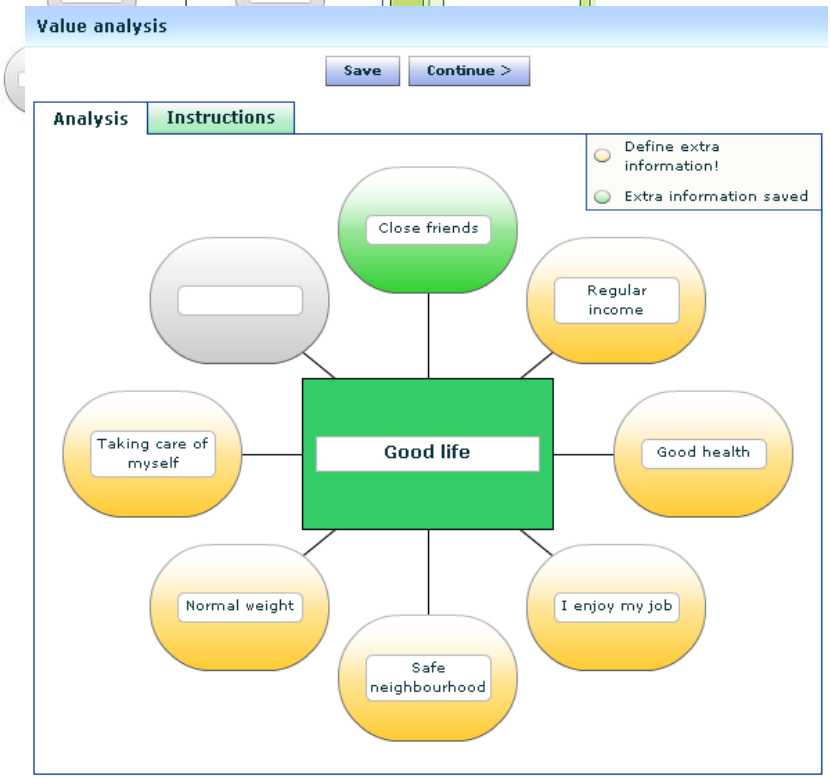
Examples of intervention methods

- Analysis of values
  - Method of acceptance and commitment therapy
  - Identification and assessment of personal values helps in planning required behavior changes
  - Can be done in the form of a mind map

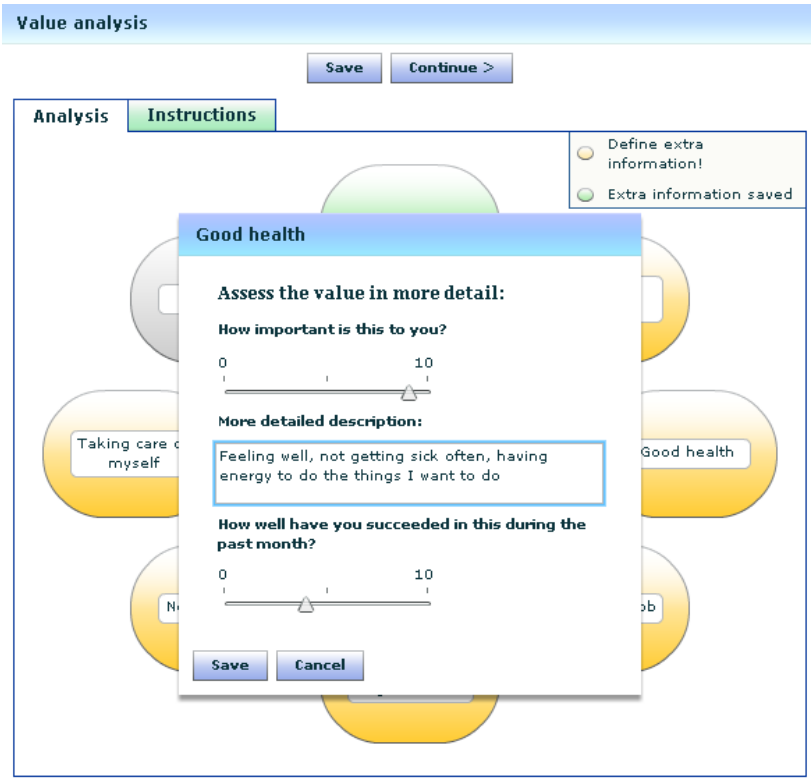
- Social atom
  - Method of interpersonal therapy
  - Social atom represents human and her connections to important people and other objects
  - Traditionally done by drawing circles, triangles and boxes with lines connecting them

Analysis of values: Web implementation (1/3)



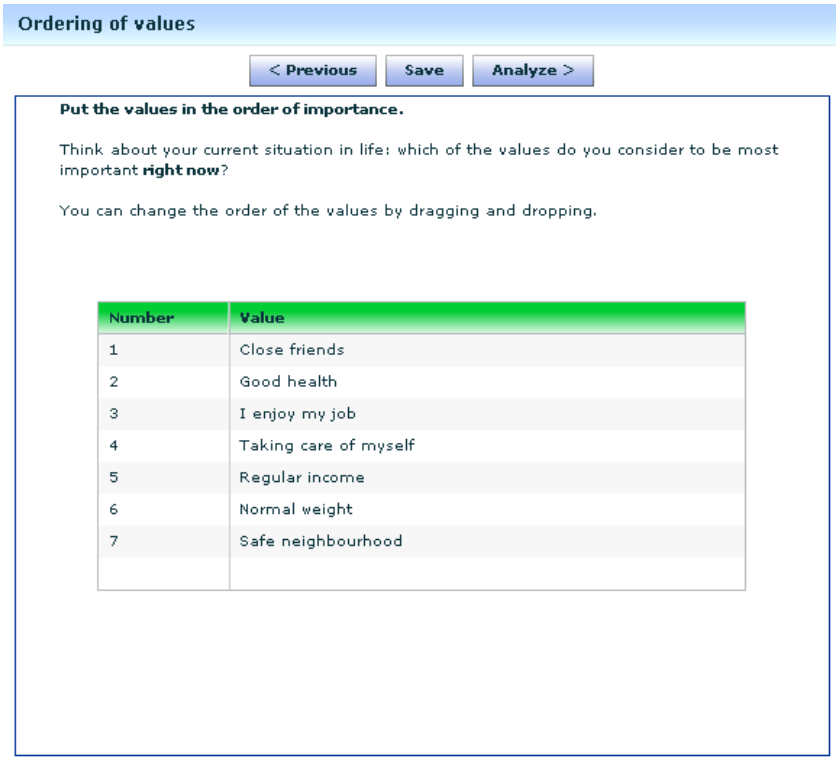


Filling the analysis



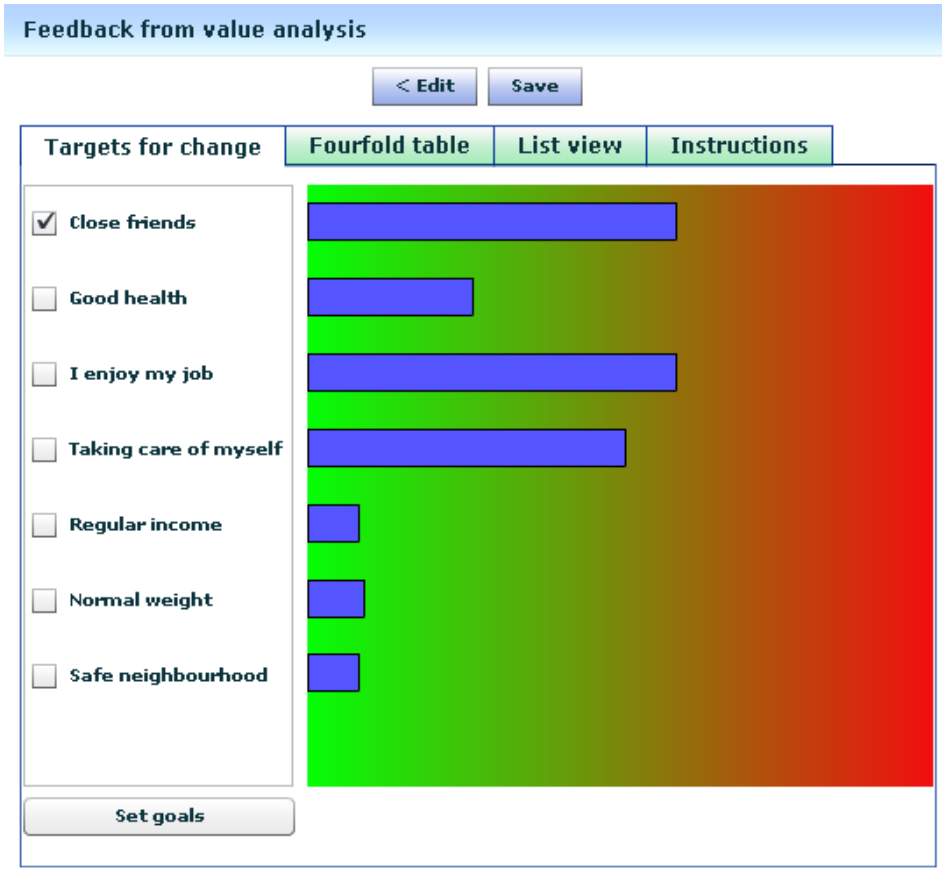
Assessment of a value

Analysis of values: Web implementation (2/3)

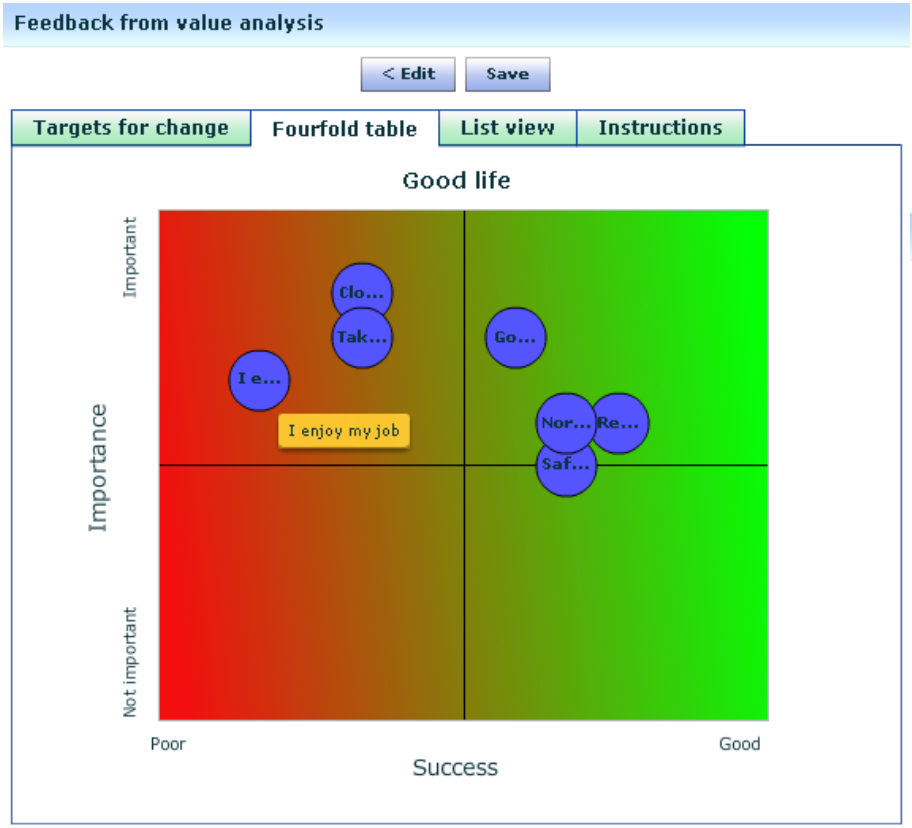


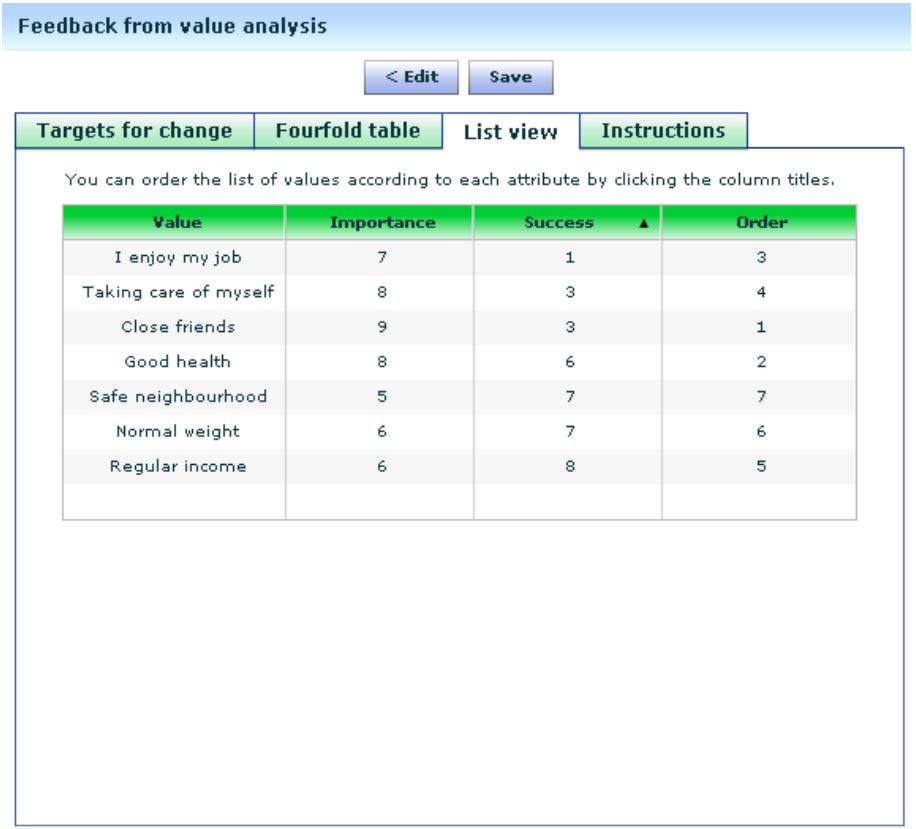
Ordering of values

Feedback view



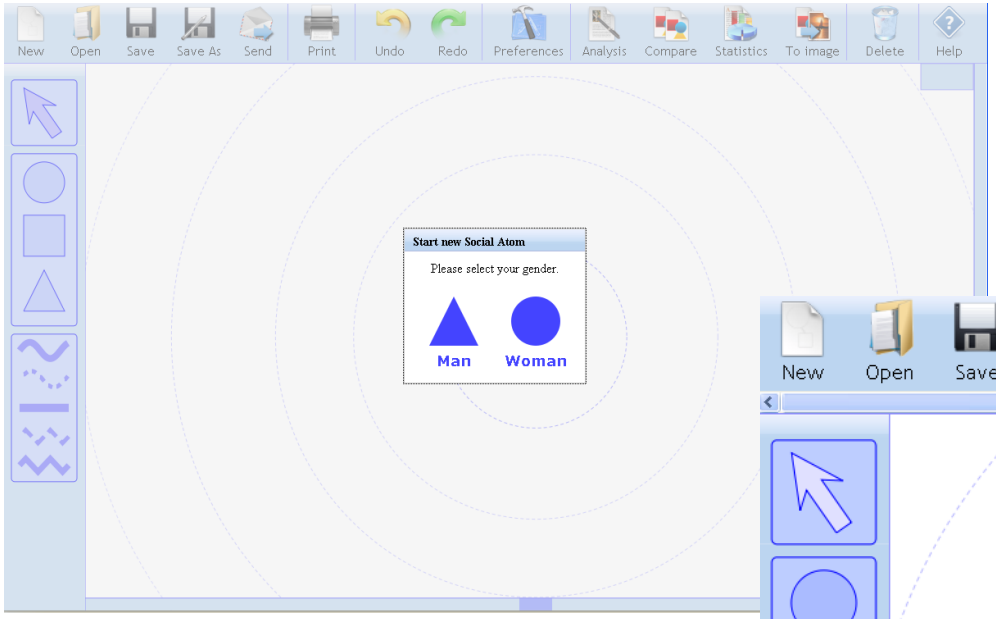
Analysis of values: Web implementation (3/3)



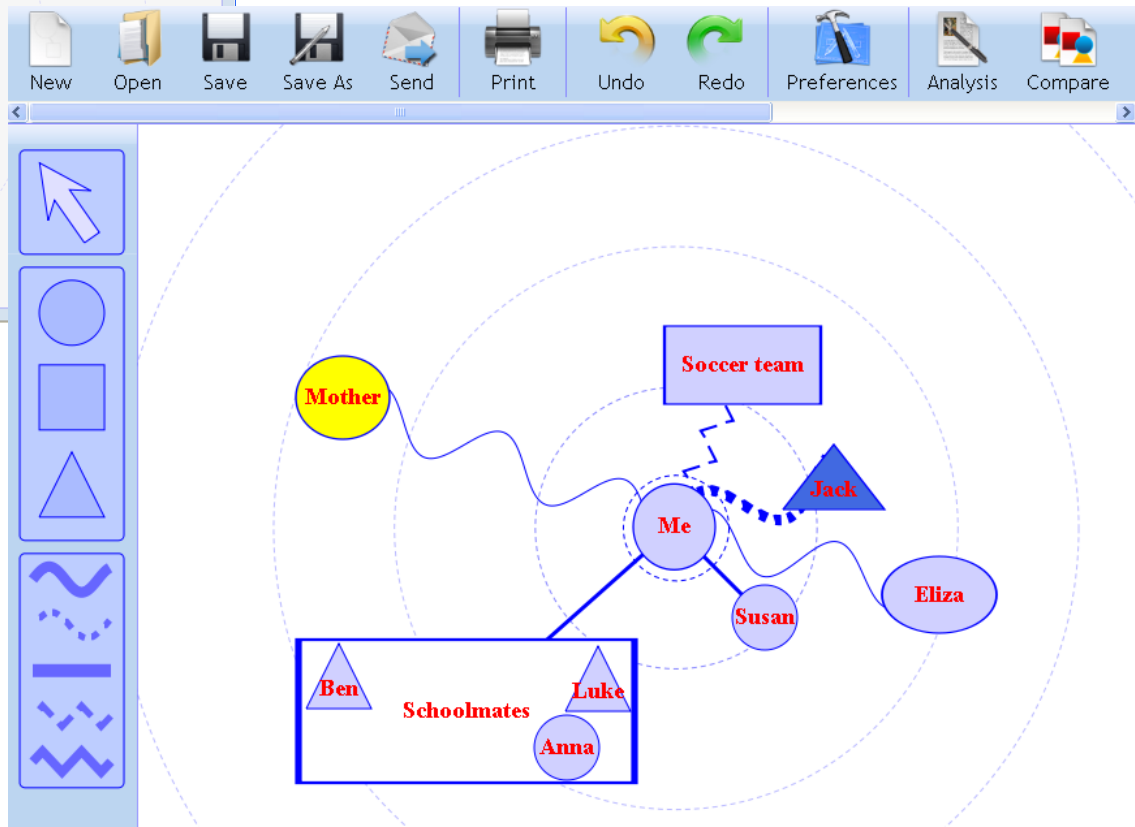


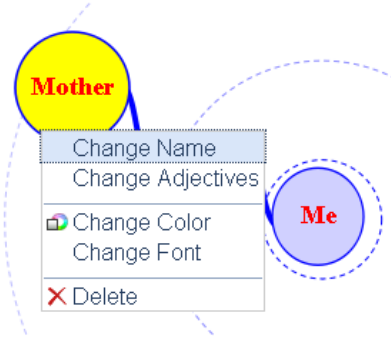
Feedback views

Social atom: Web implementation (1/2)

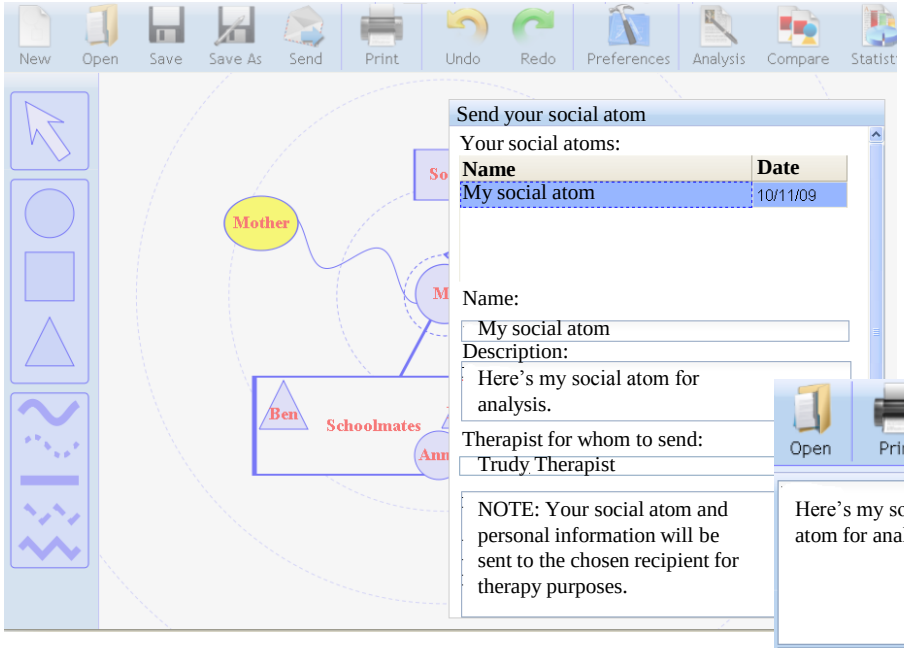


Drawing one's social atom



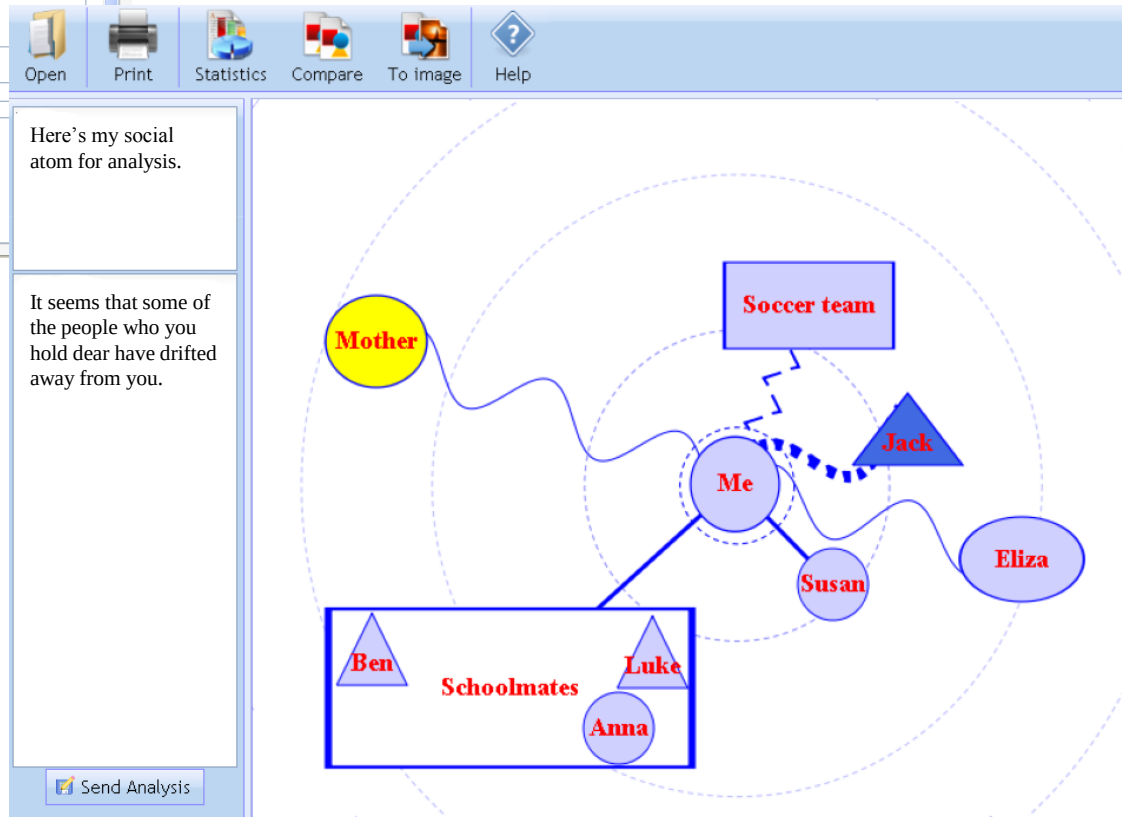


Social atom: Web implementation (2/2)



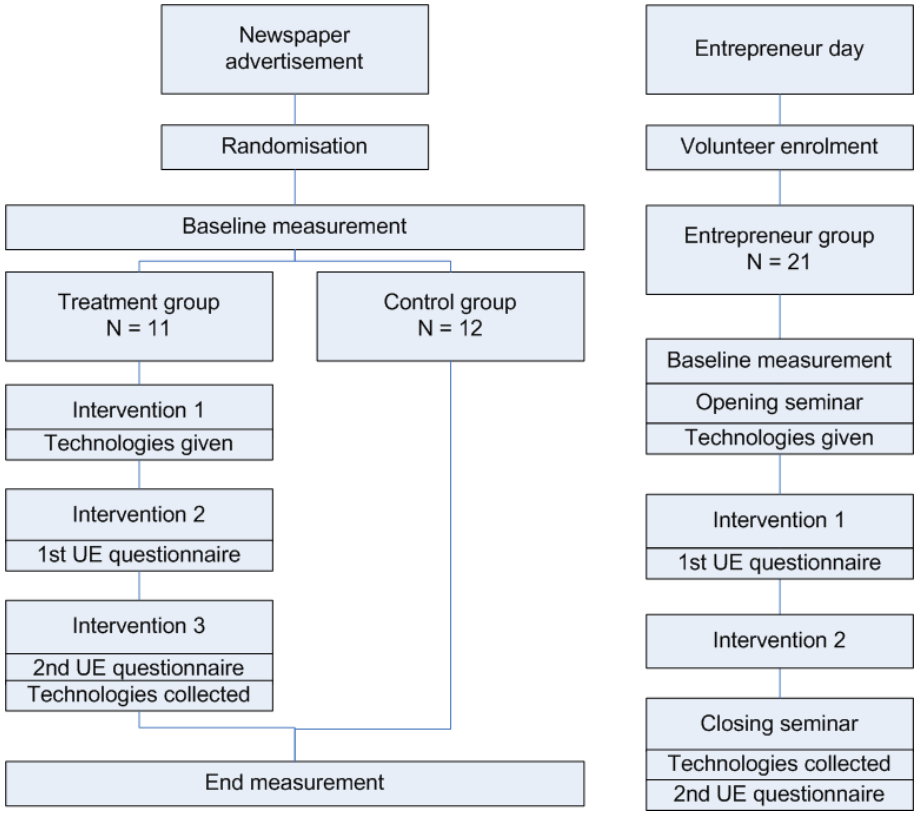
Sending the atom to be analyzed

Professional user view



Evaluations

- Service concept evaluated with two user groups in spring 2009
  - 11 men aged 48 ± 4.8 years (sleep problems or depression symptoms)
  - 21 entrepreneurs aged 54 ± 5.7 (stress or lack of recovery)
  - Study period of 9-10 weeks
- Portal usage log collected and analyzed



- Small-scale expert evaluations for web-based intervention methods during summer 2009
  - Test accounts for the portal to 8 rehabilitation experts: feedback from 5
  - One interview and testing session with a psychologist

Results: User evaluations

- Average total time spent in the portal during 10 study weeks
  - Male group 63 minutes
  - Entrepreneurs 51 minutes
- Portal tools were considered interesting, but many said they lacked time to get familiar with them
- The two methods were not used much

	Male group (n=11)		Entrepreneurs (n=21)	
	Visited	Saved	Visited	Saved
Analysis of values	6	1	8	3
Social atom	6	0	12	3

Results: Expert evaluations

- Positive towards the idea of web-based analysis methods
  - Makes remote consultation possible
  - Analyses are modifiable and comparable
  - Visualization of results and feedback
- However, commented that more complex analyses are hard to do even with therapist help
  - Saw little utility for people not familiar with the methods
- Analysis of values easier to understand than social atom
- Emphasized the need for more instructions and guidance

Conclusions

- In-depth analysis of life situation is important in recognition of personal goals and planning of lifestyle changes
- Analysis methods can be hard to understand in independent use
  → Need to provide interactive examples of diverse use scenarios
- The methods presented here may be more suitable for therapist-aided interventions than for pure self-help
- Stressed people need quick-to-use, intuitive tools
  - Intervention structure was somewhat complex and text-driven
  - Personal devices and mobile applications were used more frequently, since they were always at hand
  - Challenge: how to motivate people to use sufficient amount of time and thought in doing the analyses?

Future work

- Improvements in methods were made based on evaluation experiences
- Ongoing evaluation with 22 women (+23 control)
- Web intervention should be evaluated separately to control the effect of other technologies
- Further research needed
  - Recognition of motivational and persuasive factors
  - Automated interpretation of complex analyses and presentation of results

Project partners

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VTT creates business from technology

Email: kirsikka.kaipainen@vtt.fi