Introduction/background

<table>
<thead>
<tr>
<th>Obesity + chronic disorder 12% = obese (BMI &gt;30) / 50% = overweight comorbidities: heart failure, diabetes, depression, low self esteem etc. causes: bad eating habits, lack of physical activity, obesogenic environment, eating disorders, genetic, metabolic, medication.</th>
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Related work

<table>
<thead>
<tr>
<th>Dialectical Behaviour Therapy - successful in treating eating disorders and emotional eating</th>
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<tbody>
<tr>
<td>mindfulness - awareness and acceptance - developing a wise mind</td>
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<tr>
<td>emotion regulation - observing and describing your emotions - controlling the chain emotion ↔ behaviour - decreasing emotional vulnerability - increasing amount of positive emotions</td>
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<tr>
<td>stress tolerance - dealing with pain - suffering = pain = no acceptance</td>
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<tr>
<td>dialectical focus - validation vs problem solving (change)</td>
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Approach and methods

Objective

- Develop a personalised self-management intervention based on Dialectical Behaviour Therapy for young adult emotional eaters (from moderate overweight to obesity).
- data gathering: literature review, interviews and questionnaires developing personas (behavioural)
- user profile / persona: healthcare specifics, demographic info internet (technical skills)
- Method: the CeHRes roadmap (Center for eHealth Research University of Twente)

Results

Personas

- Anita: “When I am stressed out I start snatching the cookie”
- Anita is worried about putting on more weight / Suffers from stress and finds comfort in food / Has a sweet tooth / Hates to be patronized (authorities).

User interface concept design

- next steps user interface test results from eye tracking lab and expert interviews

Future work

Architecture

- personalised virtual coach – dialectical dialogues (validation and problem solving, developing a wise mind),
- virtual coach is personalised by input from EMA’s (daily) and behaviour chain analysis
- intake and commitment module
- skills modules on mindfulness, emotion regulation and stress tolerance

Emotion Dysregulation Model

- moments of intervention, developed with Persuasive Design Model:
  a. connecting to the user,
  b. having the user to connect to the app (to seek advice and support just before or right after problem behaviour has taken place).
  by:
  1. Dialectical strategies (validating vs. problem solving (change) to encourage the user to make the right choices before problem behaviour occurs,
  2. Behaviour Chain Analysis,
  3. Ecological Momentary Assessments (at random) to get a picture on problem behaviour patterns.

* ‘Denk je zelf!’ : develop a wise mind and counsel yourself

Supervisors

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‘Denk je zelf!’ A personalised mHealth virtual coach for obese emotional eaters *