

**Attachment 1. Results of three rounds of information gathering revealed from people with COPD or type 2 diabetes in stage 3, illustrating the dynamic specification process of requirements.**

<u>Interview topics</u>	<u>Results 1st interview round</u>	<u>Results 2nd interview round</u>	<u>Results focus groups</u>
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**Tool architecture**

<b>Place activity sensor</b>			
	On Shoe*	On hip with strap or clip	Hip
	On Hip with strap or clip*	In watch	
	Around leg*		
	In watch/bracelet*		
	Necklace		
	In glasses		
	In shoe soles		
	Implant		
	On bra-strap		
	In inhaler [47]		
	On insulin pump (DM2)		

\* these options were proposed in the second interview round

<b>Requirements</b>	Consistent measurement	Lightweight	Consistent
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**activity sensor**

Not hinder movements	Shockproof	measurement
Unobtrusive	Not hinder movements	Shockproof
Design not important		Not hinder movements
Hygienic	Unobtrusive for yourself and others	Unobtrusive for yourself and others
You should not be able to cheat	Design not important	Design not important
Waterproof	Neutral color (possibly leather or fabric around it)	Large clip Not wider than belt Hygienic
	Requirements for activity sensor on hip:	No interference with insulin pump
	Large clip and no strap	Indication if battery is low
	Not wider than belt	Battery life of a week Case for device to attach to belt Waterproof

**Goal setting**

What	Day goal	Day goal	Day goal
	Week goal	Personally relevant goal	
	Personally relevant goal		

Who	In collaboration with care professional	In collaboration with care professional	In collaboration with care professional
	Independent		
Change goal	In collaboration with care professional	independent after message tool	In collaboration with care professional
	Independent		Independent after message tool

## Feedback

### 1. Amount of activity

What	Minutes	Minutes total	Minutes
	Steps	Difference in intensity	Activity history
	Heart rate	Heart rate	
	Kilometers	Activity history on the computer	
	Relation of activity with blood glucose levels and apnea		
	Activity history to see pattern and decline in activity		
Where	Activity sensor	Mobile phone	Mobile phone
	Mobile phone	Computer	
	Computer		
	By mail		
Feedback		Possibility to annotate	

requirements

the activity data

## 2. Amount of activity compared to goal

What	Achieving goal yes/no Percentage of goal achieved	Percentage of goal achieved	Percentage of goal achieved Achieving goal yes/no Feedback messages
Where	Activity sensor Mobile phone Computer	Mobile phone Computer	Mobile phone
How	By mail Graph Picture Text Numeral Percentage Scale (0-100) Sound Color Cheering Vibration Lights	Graph Numeral Percentage Color Vibration	Text Percentage Color Image

## 3. Response of a health professional based on the activity results

Who	Practice nurse	Practice nurse	Practice nurse
	General practitioner	General practitioner	
	Physiotherapist		
	Diabetes nurse		
	Internist		
	Pulmonary nurse		
How	By phone	By phone	By phone
	In consultation	In consultation	In consultation
Effect	Extra motivator	Extra motivator	Extra motivator
	One person does not like it	One person: Only if I bring the results myself	

### **Data sharing**

Share activity results with peers	No need to do this automatically, only in real life	No need to do this automatically, only in real life	No need to do this automatically, only in real life
Share activity results with relatives	No need to do this automatically (Facebook, Twitter etc.) only in real life	No need to do this automatically (Facebook, Twitter etc.) only in real life	No need to do this automatically (Facebook, Twitter etc.) only in real life