

# User Manifestation Mappings for Preventive Physical Health Games

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## Motivation

The overall state of human health leaves much to be desired, even in developed countries, where our sedentary lifestyle is a core issue regarding health. Technology often has the positive effect of making our lives „easier“ and more „optimized“ (good) while also enforcing this very lifestyle (bad). Health games on the other hand counter negative effects on health by motivating us to reach preventive health goals.

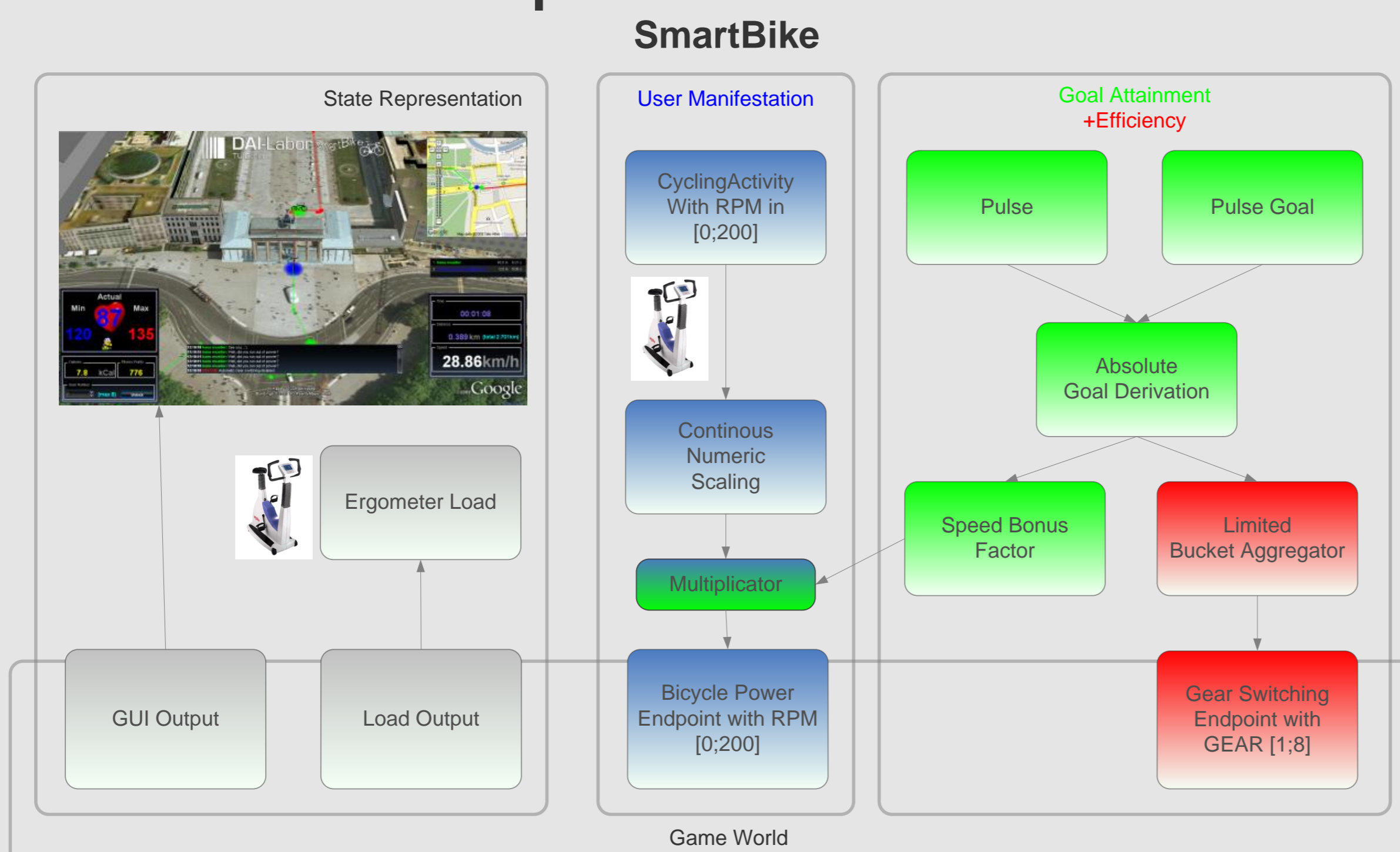
## Problems

- there is no comprehensive model for health games and their specific properties
- existing health games lack flexibility
- also, how do motivational patterns in computer games apply to health games?
- which are the most important patterns for health games?

## Approach

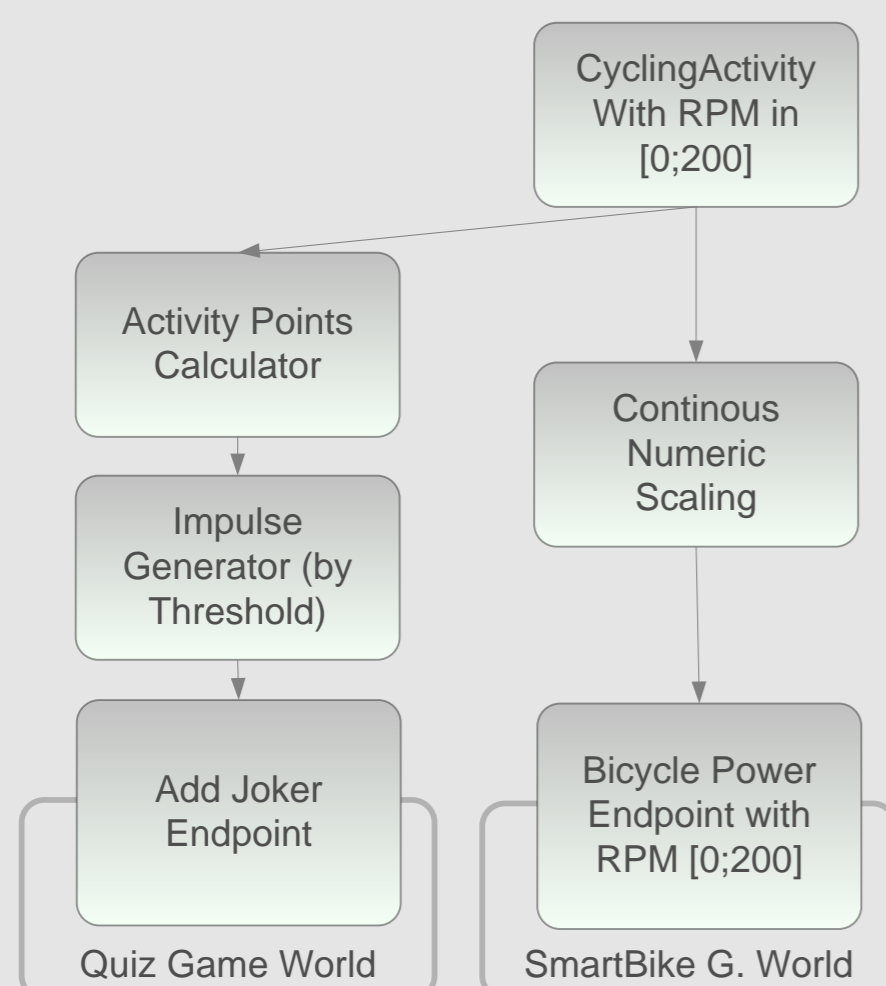
- the connection between the users state and actions and the game world is modeled by User Manifestation Mappings (UMM)
- this greatly increases flexibility of these games
- also, the UMM layer serves as a host for the most important motivation patterns

## Practical UMM Examples



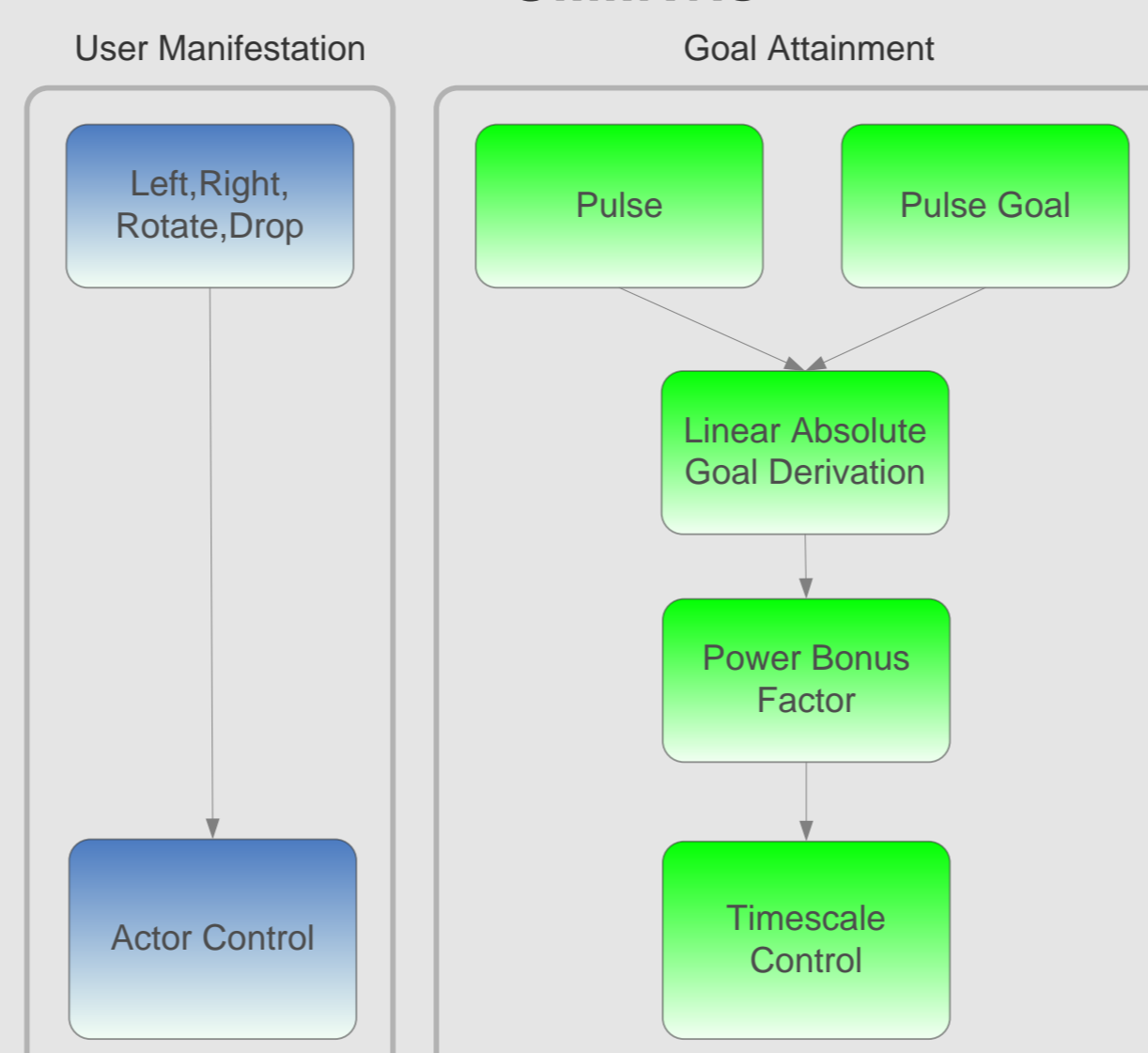
In SmartBike, the game goal is to win the race by being the fastest player. We can simply add flexibility regarding the input device or activity to the mapping above by just changing the input activity. Also, the red part on the right enables efficiency by automatically switching gears to keep the user inside the desired pulse interval.

### GeoBikeQuiz



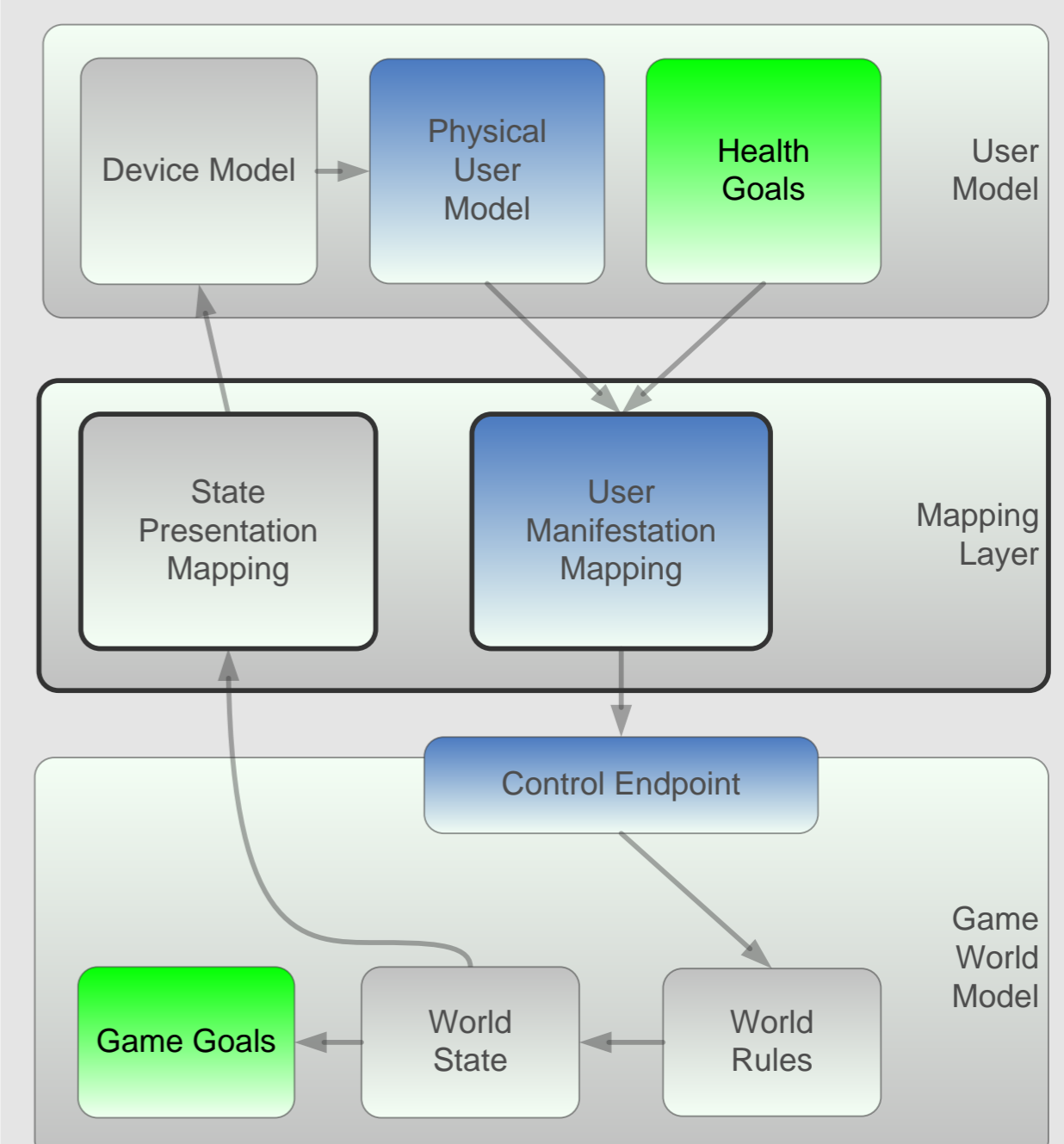
Extended Smartbike displays wikipedia articles and is coupled with a POI quiz. You gain quiz jokers by driving around the virtual world.

### UMMTris



Tetris with a twist – pulse goal attainment controls game speed (time scale).

## Theoretical UMM Model



- current focus on the input side
- components of a basic user manifestation mapping in blue
- additional component of a goal attainment mapping in green
- attainment of physical health goal linked to attainment of health goal

## Links

Smart Health Assistant  
<http://www.smart-health-assistant.de/>