



# SAFE STEP

Marlene Sandlund, Lillemor Lundin-Olsson

Umeå University, SWEDEN

**ACKTUS**

Activity-Centred Modelling of Knowledge and Interaction Tailored to Users



# Effective fall prevention



- Balance and strength exercises are effective in reducing falls among community-dwelling seniors (Gillespie et al 2012)
- Exercises can reduce the number of falls and fall related injuries by 1/3 (Robertson et al 2002)
- Multi-factorial interventions in nursing care facilities and hospitals (Cameron et al 2012)

UMEA

## PROBLEM

Falls are the leading cause of injury among older people

## ACTION

Strength and balance exercises decrease the number of falls and fall related injuries

## IMPLEMENTATION

How to reach and involve older persons in falls prevention exercises

UNIVERSITY



# Safe Step App

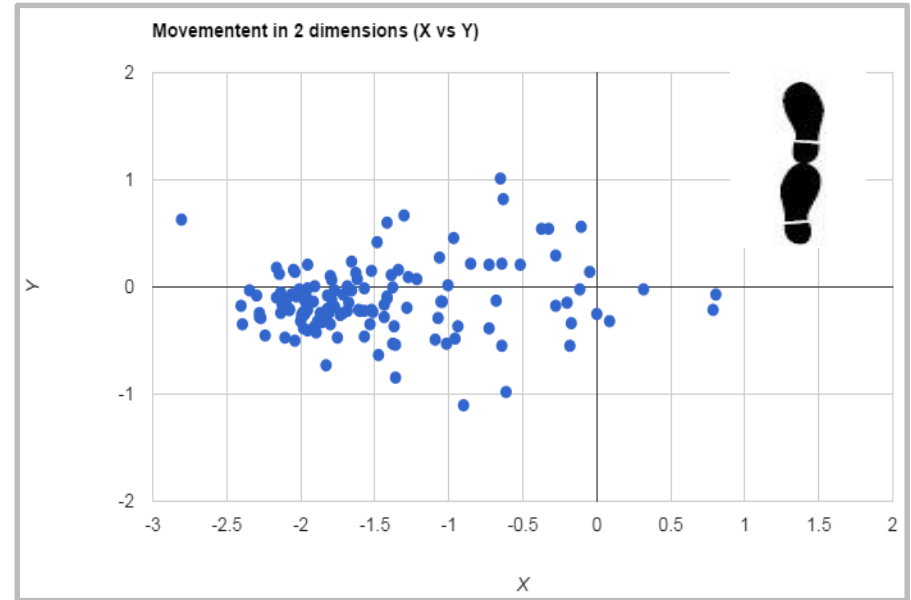
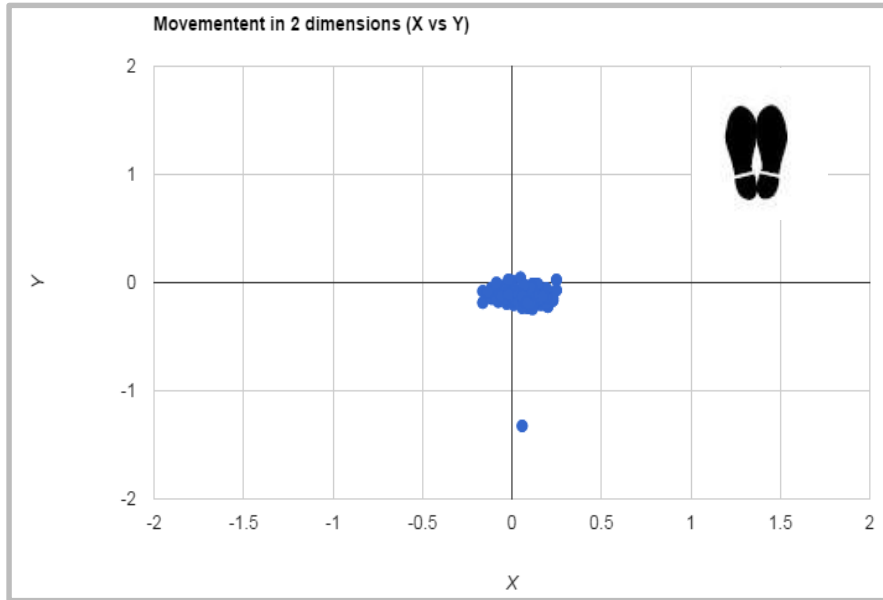
A fall prevention exercise programme developed together with older participants

- Personalised programmes
- Evidence based
- Promote motivation





# Sensor based feedback...

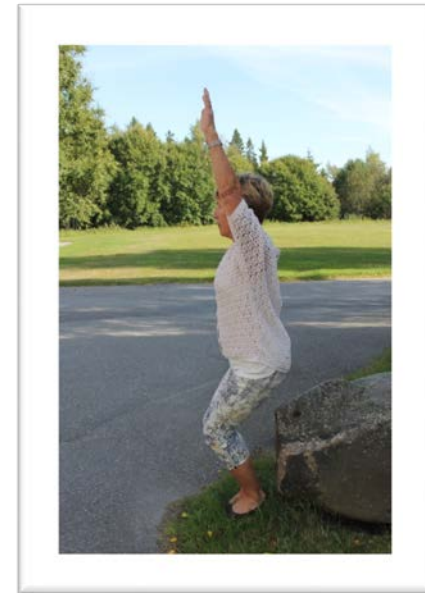
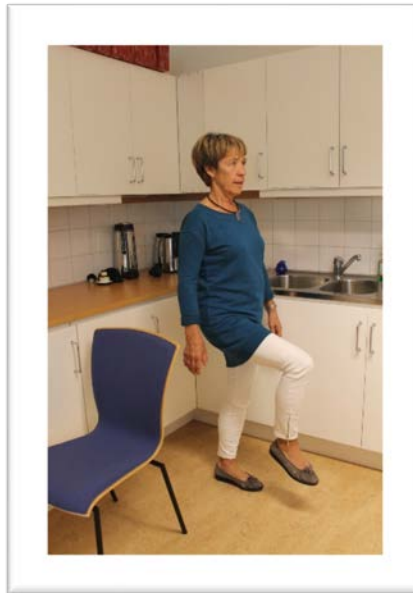


*Your balance has improved!*



# Exercises

- Otago Exercise Programme (Otago Medical School 2003)
- FaME (Skelton and Dinan 1999)
- Additional exercises





# Participants

- 18 women and men with a mean age of 74 years
- 7 Researchers  
(Physiotherapy, Informatics and Computing Science)





# Methods

Series of workshops  
inspired by PAAR

- Focus group discussions
- Discussion activities
- Exercise try-outs







# Motivation

Photographs, existing exercise applications, practical activities and discussions

## Persona:

- Stig/Stina Statistics
- Sofia/Sonny Social
- Olivia/Oliver Outdoor
- Gösta/Gerd Garden
- Helga/Helge Hesitant





# ACKTUS

Activity-Centred Modelling of Knowledge and Interaction Tailored to Users

- Iterative design and knowledge engineering using the ACKTUS platform



Informationstexter

✓ Spara

✗ Avbryt

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