



Research Consortium in Speckled Computing

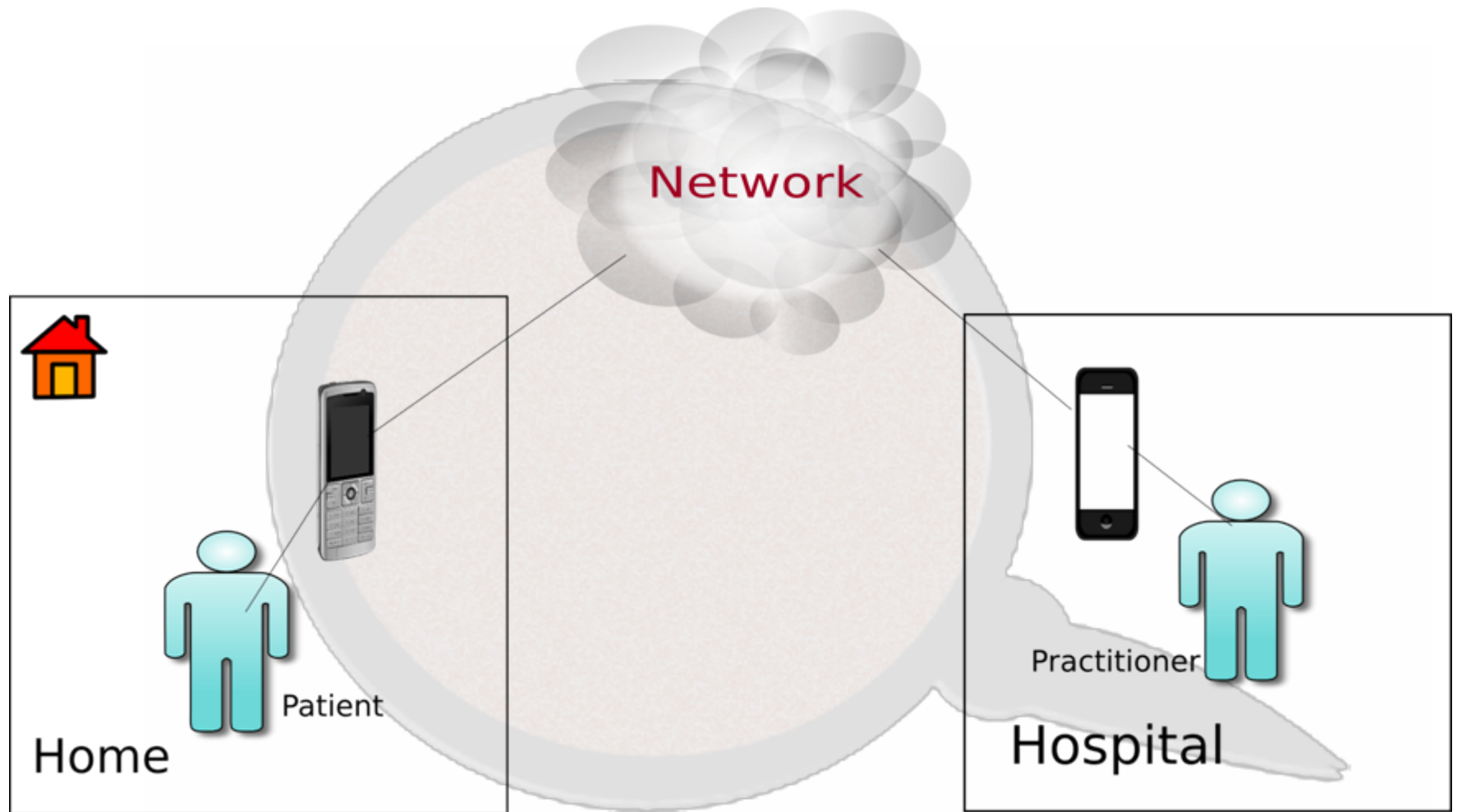
Speckled Computing for Pervasive Health



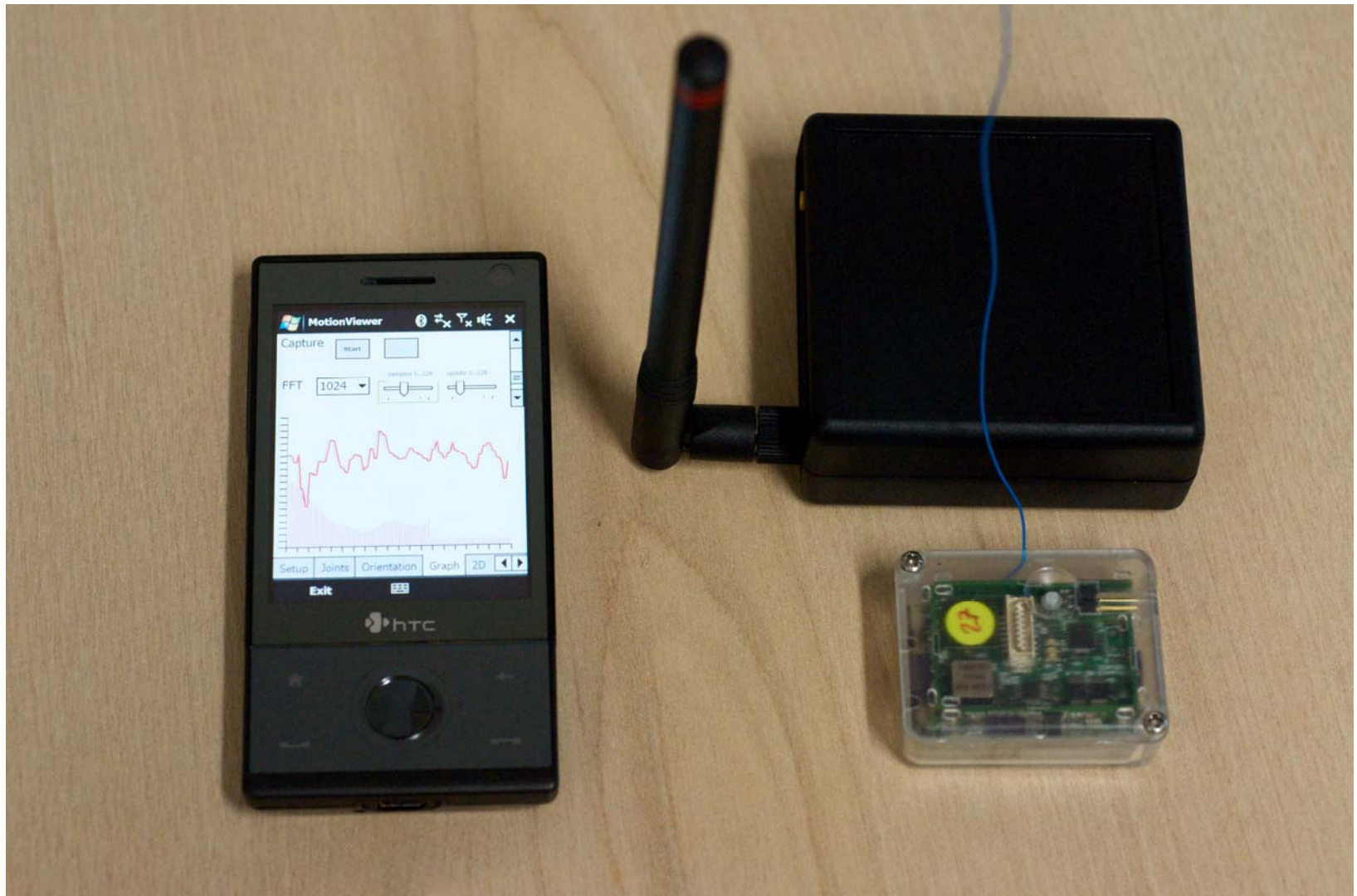
Introduction

- Pervasive Applications of Speckled Computing
- COPD
- Falls Prevention
- Gait Analysis
- Strokes

Pervasive Health



Pervasive Health using Speckled Computing



Pervasive Health

- Multiple Data Capture Models
 - Bluetooth, Phone, 3G Network
 - WiFi
 - Recording to SD memory cards
 - In Future: Direct to 3G

COPD

- 4th most common cause of death worldwide (WHO)
- 24 million working days lost per year in UK
- Speckled Chest Wall Movement Tracking in home
- A 10% reduction in hospital admissions – up to £3.600.000 reduction in NHS costs

Advantages over Existing Standards

- In contrast to competing, synchronised technologies, SpeckMac does not require prior synchronisation between nodes
- As a result it has certain advantages in scenarios with high mobility and infrequent communication

Gait Analysis

- Gait Analysis is presently lab-based
- The existing Gait Analysis labs do not have sufficient capacity to exploit the full potential of gait analysis
- Speckled Gait Analysis:
 - Lower Cost
 - Outside, in the users usual environment
 - Mobile Gait Lab is feasible

Falls Prevention

- 647,721 A&E attendances, 204,424 admissions to hospitals (UK, 1999)
- £981 million cost to UK gov
- Can Speckled Gait Analysis predict falls?

Strokes

- Stroke Patients need to perform exercises
 - Currently monitored in hospital
 - Use Orients to guide exercise
 - Send Monitoring Data to Hospital
 - Patient Records
- Extending the Reach of the Hospital

Questions?

