MemoryLane - Building digital life stories for memory support

Basel Kikhia

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Lifelogging

- Capturing and recording personal life experience
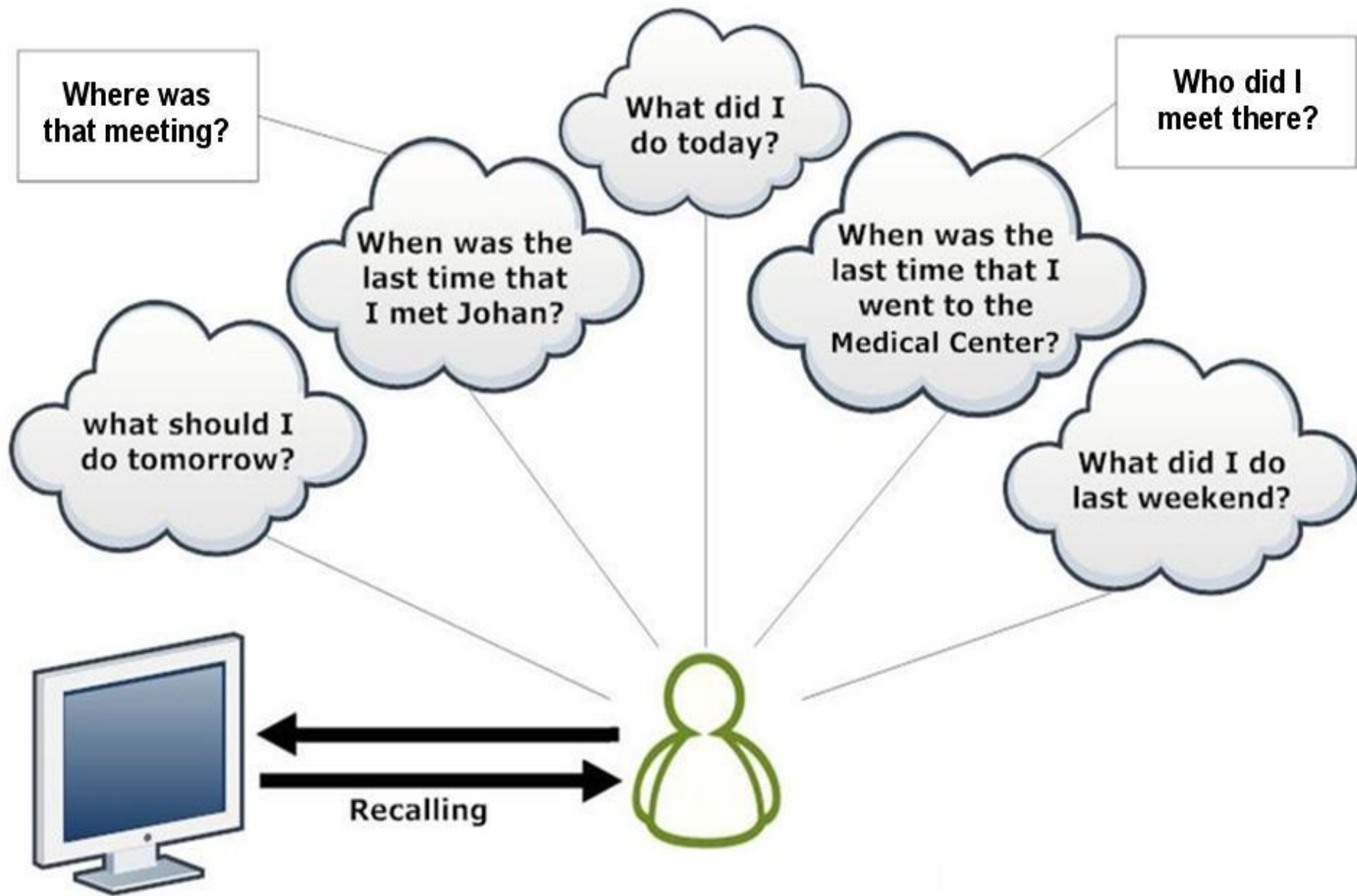

- Fun

- Diary Applications

- Memory support

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Human Memory

- **Semantic memory**

- **Procedural memory**

- **Episodic memory**

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Memory Support

- **Dementia**
  - **Forgetting name, faces**
  - **Navigating**
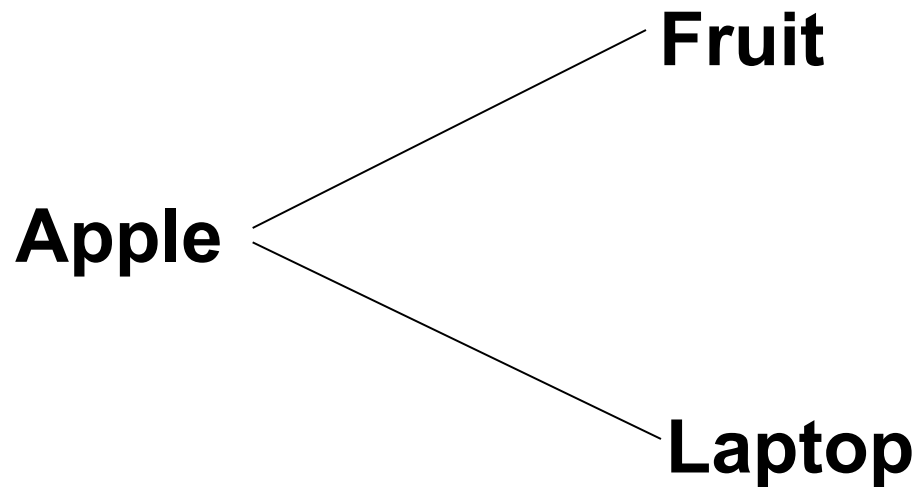 - **Forgetting past activities**

MemoryLane project

Where was that meeting?

What did I do today?

Who did I meet there?

When was the last time that I met Johan?

When was the last time that I went to the Medical Center?

what should I do tomorrow?

What did I do last weekend?

Recalling

Touch screen computer

Images

SenseCam

Logging images

Built-in Sensors

Fruit

Apple

Laptop

Fruit

Laptop

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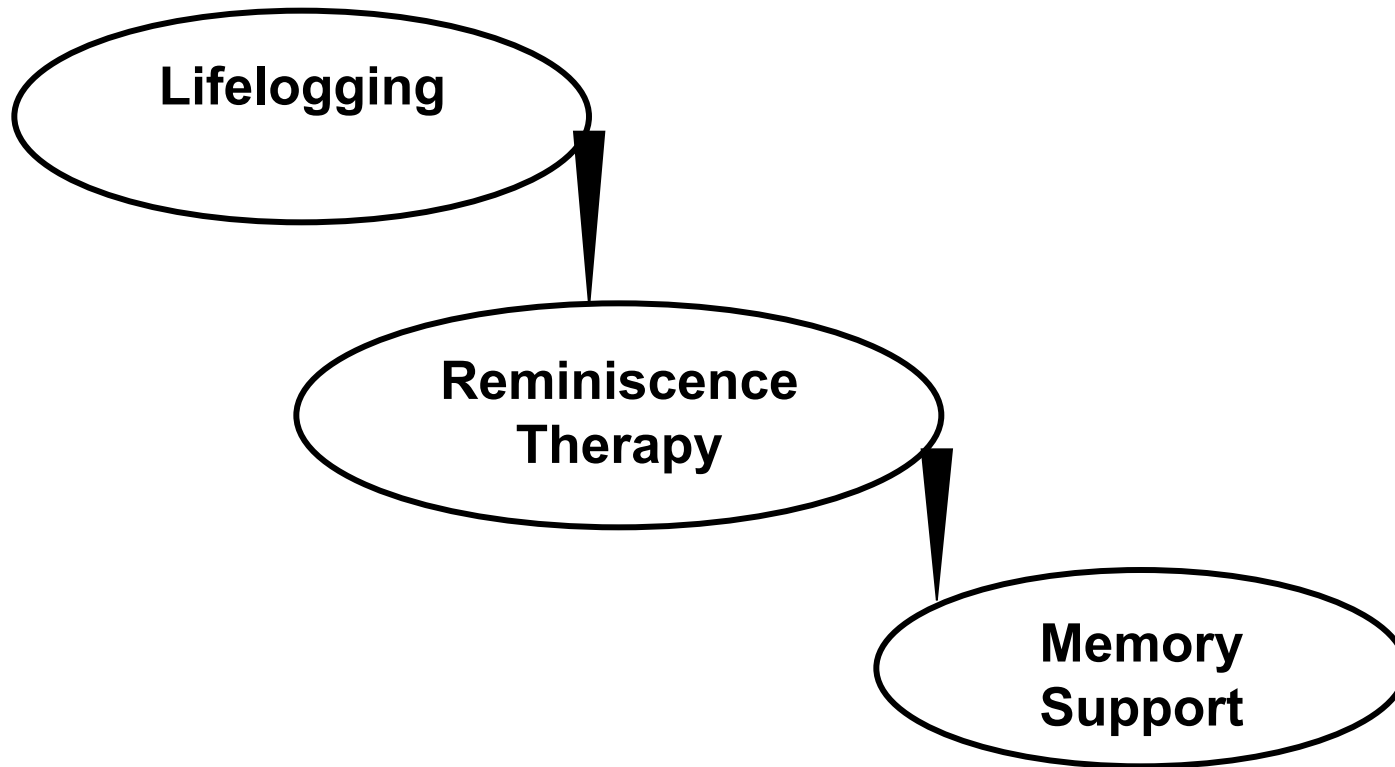
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Reminiscence Therapy

- **Discussion of past activities and events**

- **The aim of the therapy**

- **Reminiscence leads to memory support**

Basel@ltu.se

Lifelogging

Reminiscence Therapy

Memory Support

System Prototype

Mobile device

SenseCam

Touch screen computer

Cognitive Assistant

Logging GPS & BT

Logging images

Built-in Sensors

Analyze logs

Define activities

Reviewing & Adjustment

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Activities

In a known place

Unknown Context

Context & Content Annotation

Home Station

In a known place with a known person

With 3 known persons

Unknown Context

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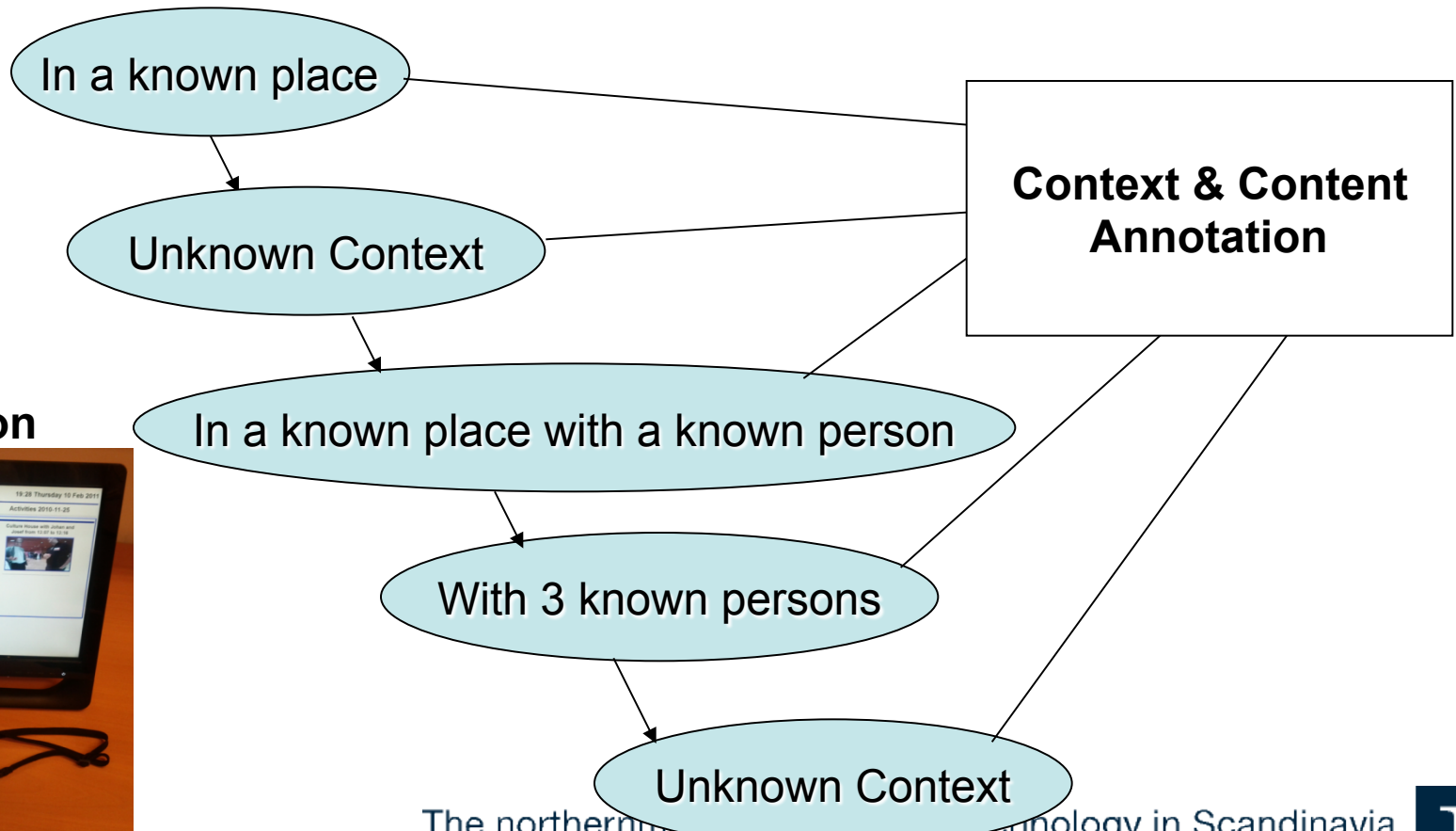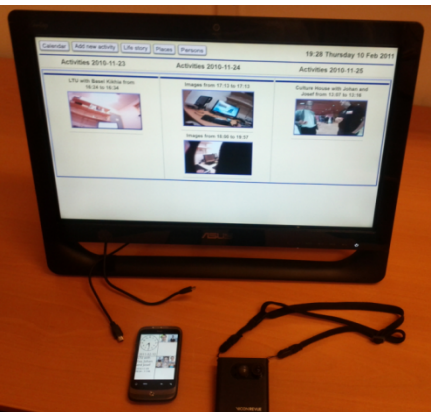
Field Test

10 users suffering from mild dementia together with their carers

Conclusion

- **Digital Reminiscence System**

- **Retrieving Life experiences**

- **Improve the quality of life**

Future Work

- **Improve the activity recognition task**

- **Reduce semantic gap**

LULEÅ UNIVERSITY OF TECHNOLOGY

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Thank you

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