# A Framework for
# User-Tailored City Exploration

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**ForAll**

**UbiComp**

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# End-user development (EUD)

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*The need for end-user development is not a luxury but a necessity.*

Gerhard Fisher, university of Colorado

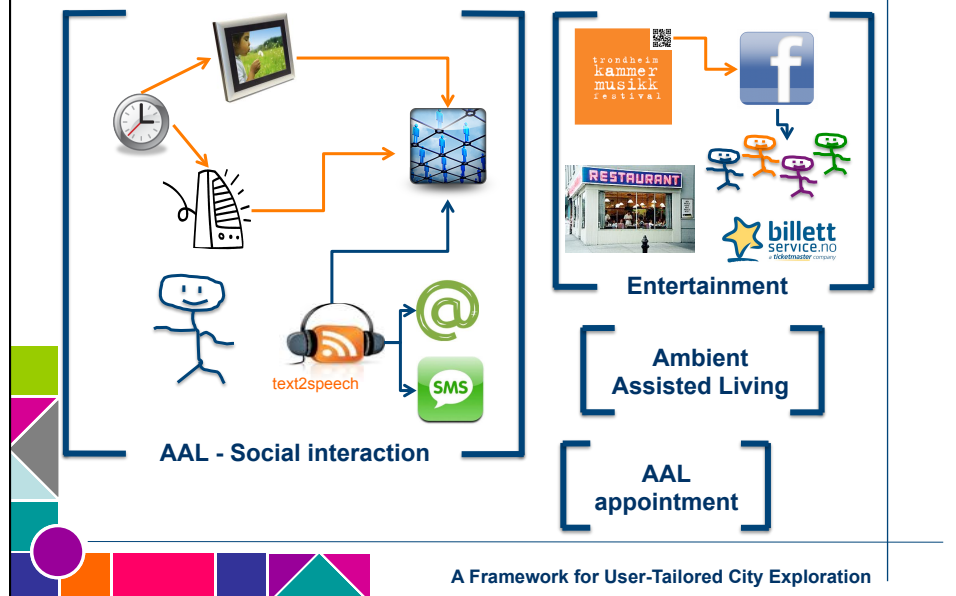**A Framework for User-Tailored City Exploration**

# Ubiquitous services

**3**



Things

Services

People

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# EUD in mobile environments

**4**



*Smartphone technology*

**Home & work**

*Services*

**Enablers**

*Ubi Home*

*Marketplaces*

*EUD SDK*

**Mobile environments**

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# End-user composition: what? why? (5)



text2speech

**AAL - Social interaction**

**Entertainment**

**Ambient Assisted Living**

**AAL appointment**

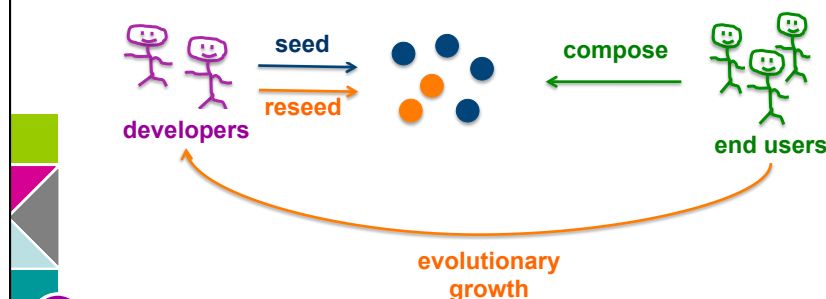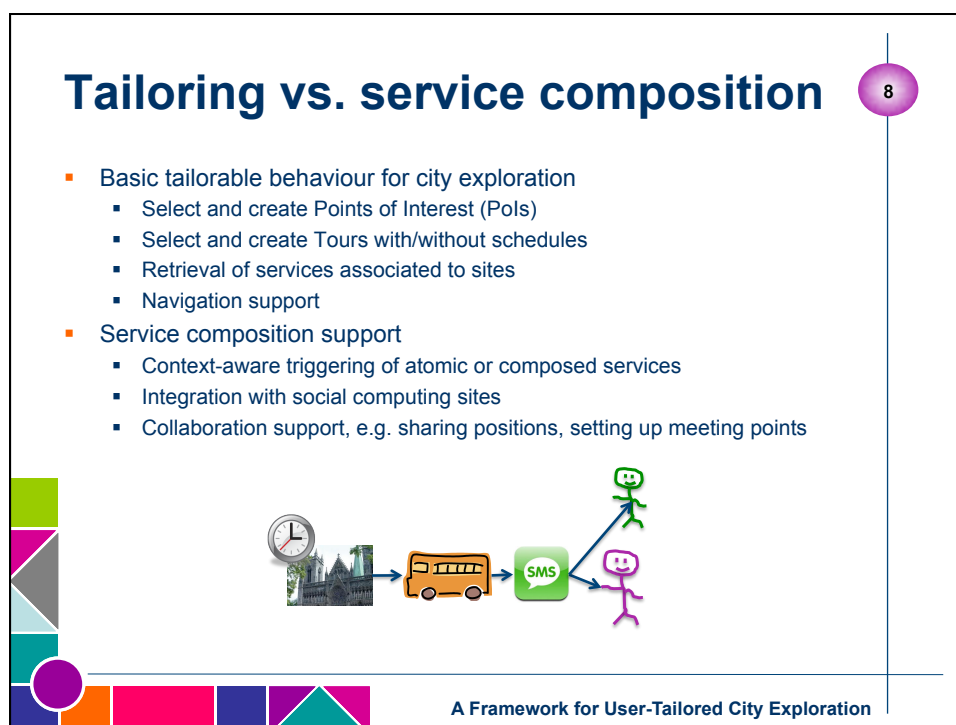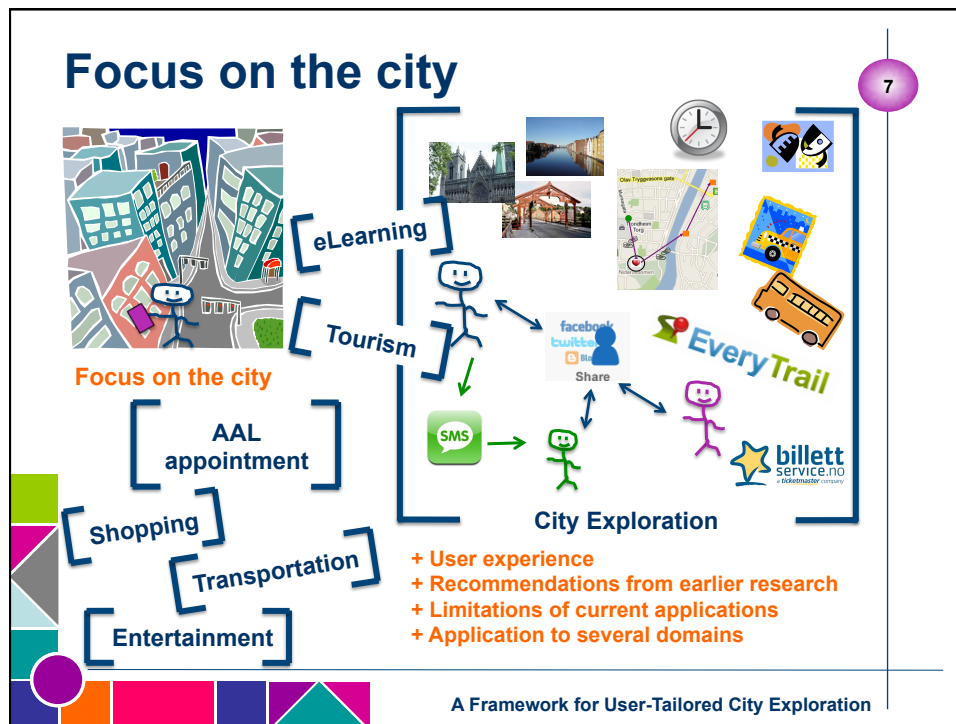A Framework for User-Tailored City Exploration

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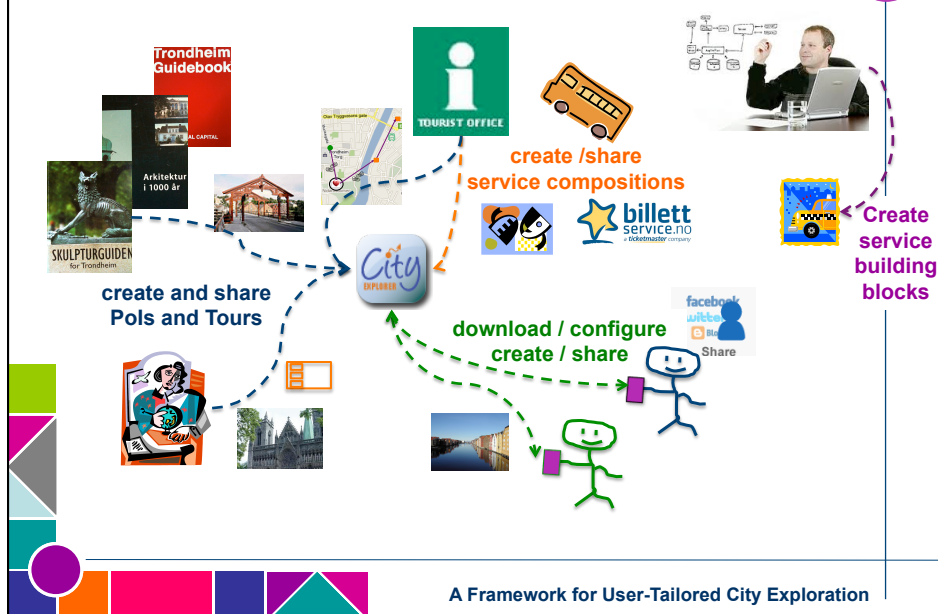# Participatory vs. meta- design (6)

- Participatory design:
  provide means for people to participate actively in the design

- Meta-design:
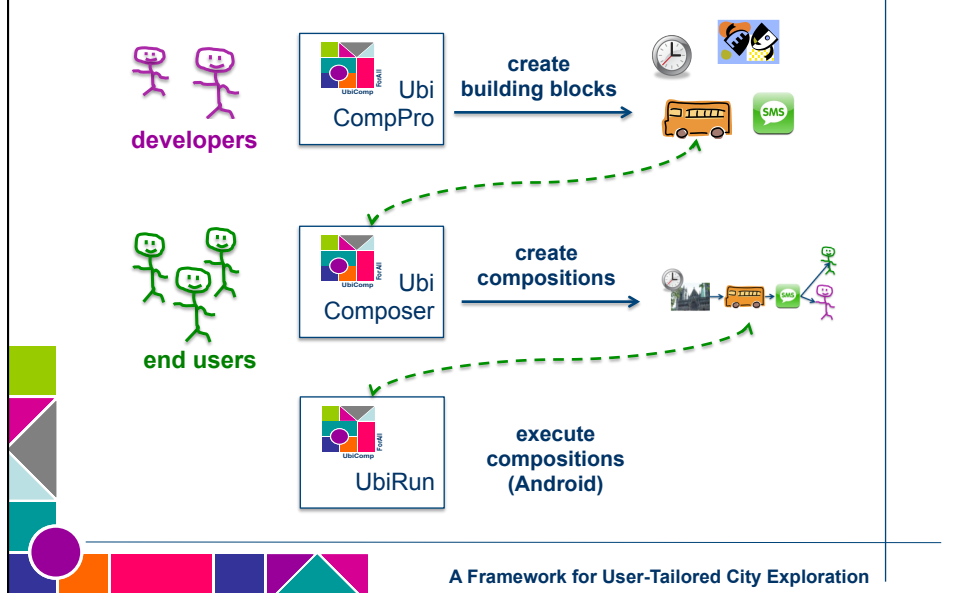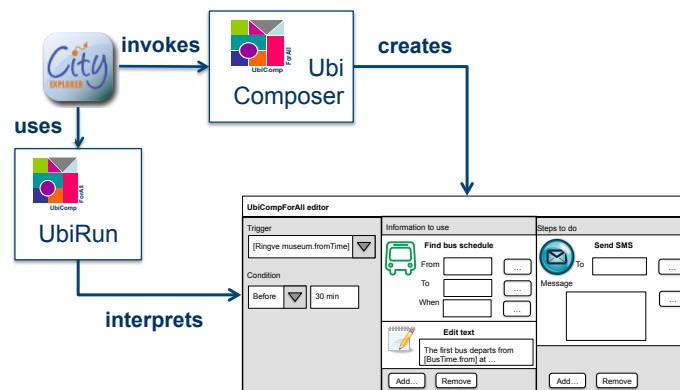  create environments allowing owners of problems to be designers



**developers** — seed / reseed → ... ← compose — **end users**

**evolutionary growth**

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# Focus on the city



**Focus on the city**

eLearning

Tourism

AAL appointment

Shopping

Transportation

Entertainment

City Exploration

**+ User experience**
**+ Recommendations from earlier research**
**+ Limitations of current applications**
**+ Application to several domains**

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# Tailoring vs. service composition

- Basic tailorable behaviour for city exploration
  - Select and create Points of Interest (PoIs)
  - Select and create Tours with/without schedules
  - Retrieval of services associated to sites
  - Navigation support
- Service composition support
  - Context-aware triggering of atomic or composed services
  - Integration with social computing sites
  - Collaboration support, e.g. sharing positions, setting up meeting points



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# Stakeholders and roles



create /share service compositions

create and share Pols and Tours

download / configure create / share

Create service building blocks

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# Tools



developers

Ubi CompPro

create building blocks

end users

Ubi Composer

create compositions

UbiRun

execute compositions (Android)

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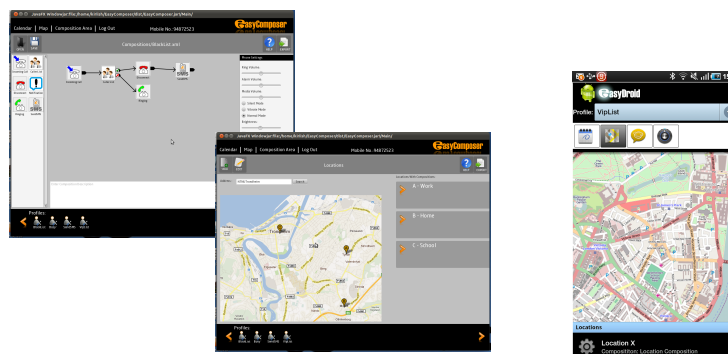
# Integration with City Explorer

**11**



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# Other tool prototypes

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- EasyComposer and EasyDroid
  - focus telco services
  - developed by Gintel
- SmartTracker
  - focus on tracking of mobile assets
  - developed by Tellu



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# Challenges

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- Providing solutions adapted to the knowledge of end users
    - level of abstraction
    - avoiding errors

- Generic framework for for domain tailored-composition

- Combining the development of advanced software engineering solutions with user-centered design

- Follow our work at www.ubicompforall.org

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