

Developing Urban Health Games

An Interdisciplinary Approach



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Workshop on Smart City Learning at
EC-TEL 2014 in Graz, Austria
16.September 2014



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Research on Urban Health Games – An Interdisciplinary Approach



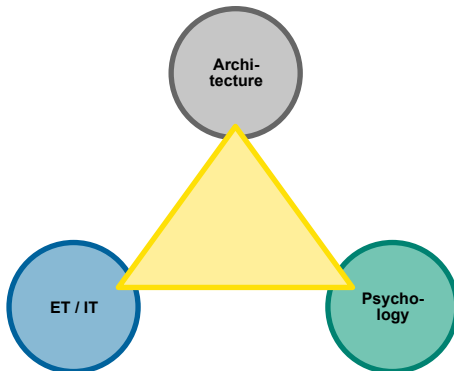
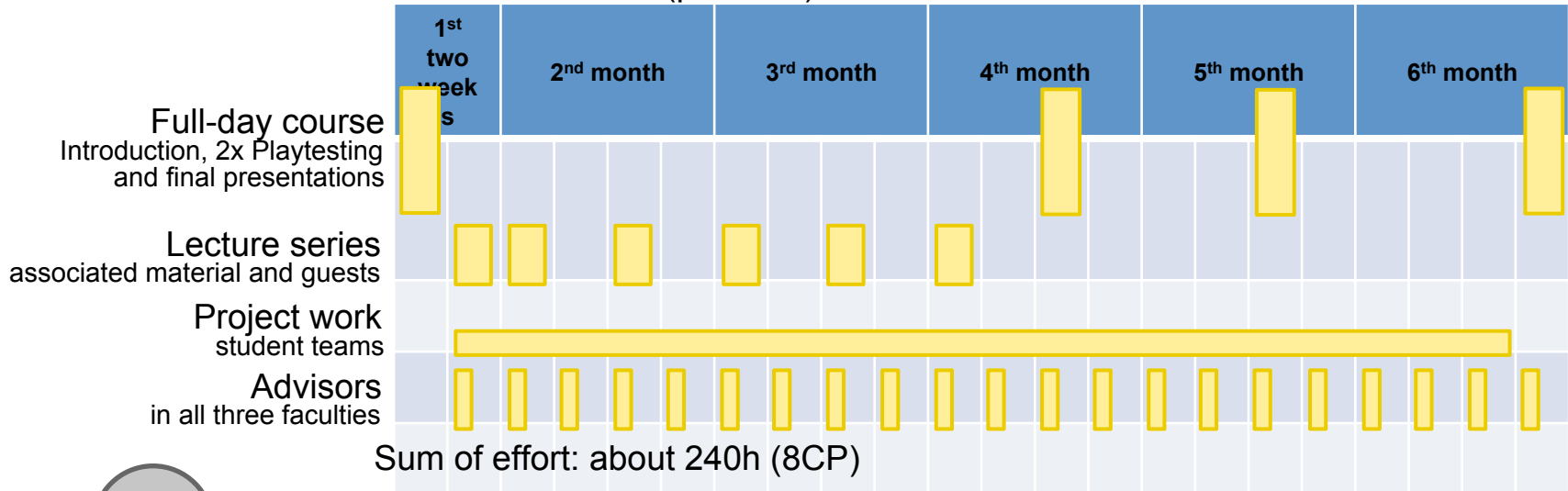
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Research on Urban Health Games – An Interdisciplinary Approach

Implementation

Course Structure (per term)



Approach:

Urban Design stimulates “walkability”

- Use patterns
- Transport systems
- Urban Design Characteristics as
 - imageability
 - enclosure
 - scale
 - transparency
 - Complexity
- Diversity and transition





RESULTING PROTOTYPE(S)

DEVELOPING URBAN HEALTH GAMES

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Stadtflucht – Serious Game zur Flucht aus dem Alltag



Die Stadtflucht ist ein Serious Game, das dazu einlädt, den Frankfurter Osten neu kennenzulernen. Angeleitet durch ein Smartphone Game lernen die Teilnehmer möglichst schnell aus verschiedenen Architekturen zu flüchten und ...

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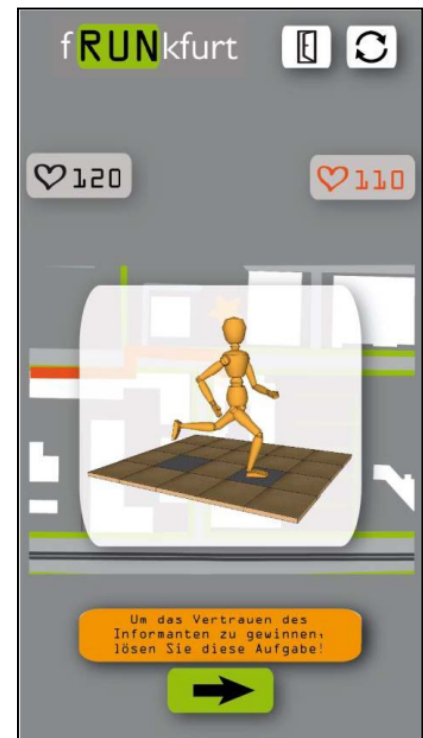
www.urbanhealthgames.de

fRUNkfurt – a storytelling-based pervasive activity game



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- **Interval Training**
(based on biofeedback + game design + urban planning)
- **Urban Design Analysis** of activating and relaxing areas
- **Aim: Actively influence**
the perception of city environments for health training
- **Targeting: office workers**
- Detective story approach, dynamic way-planning
- Contributes to walkability and habit changes



Criteria



Criteria: Room for relaxing

Size/transparency:	narrow-wide
Protection:	unprotected-protected
Noise:	loud-quiet
Traffic:	crowded – calm
Aesthetics:	shabby-cultivated
Green:	seldom-broad
Comfort/Furnishing:	few-many



Abb. 60: Hugo-Sinnes-Straße (Blickrichtung Hanauer Landstraße, in Fahrtrichtung rechts)



Criteria: Room for physical activity

Size/transparency:	narrow-wide
Protection:	unprotected-protected
Exercise space:	limited use – plenty
Workout possibilities:	few bases – good base
Furnishing for activity:	few-many

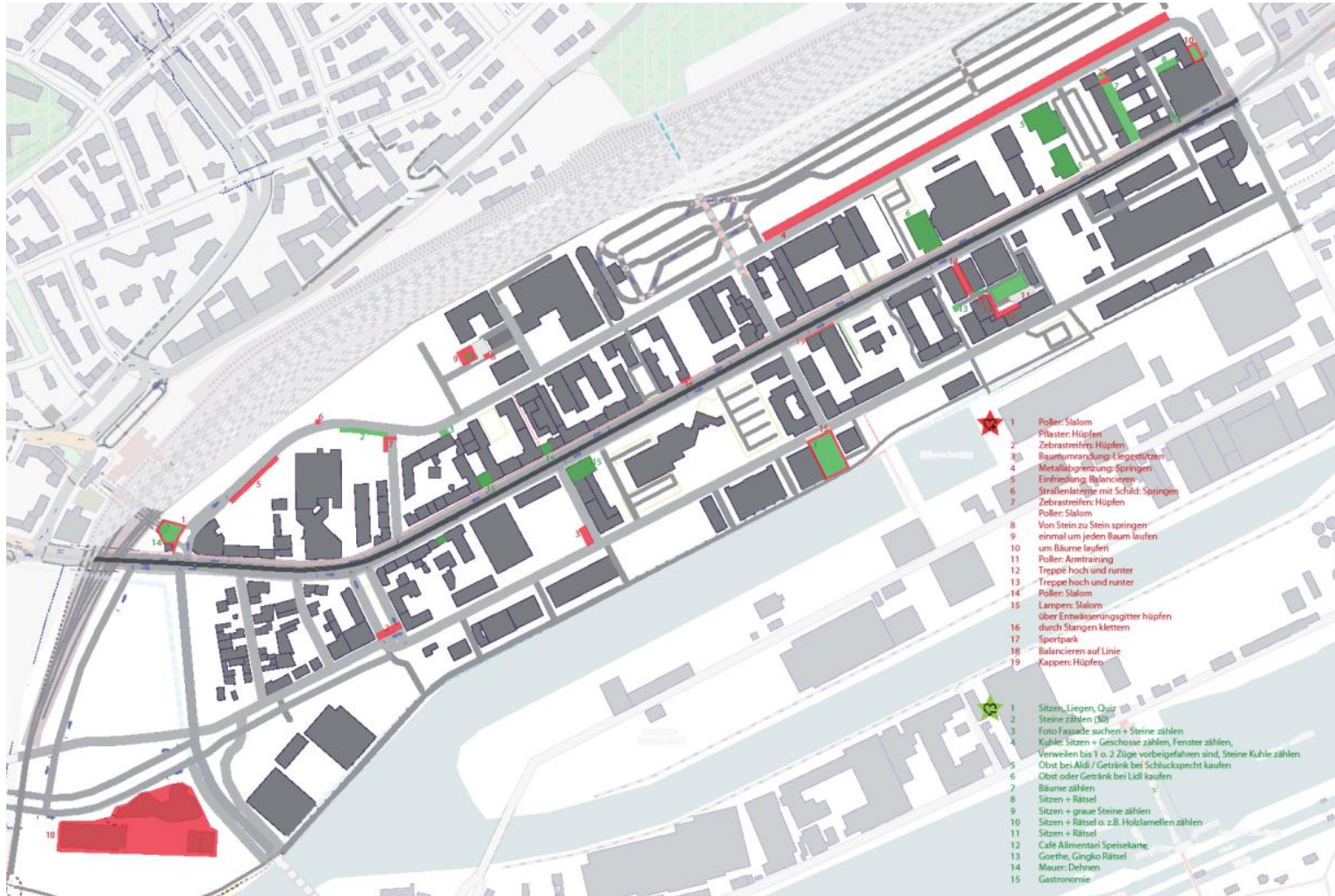


Abb. 61: Straßenschnitt Hugo-Sinnes-Straße

Map of analyzed POIs



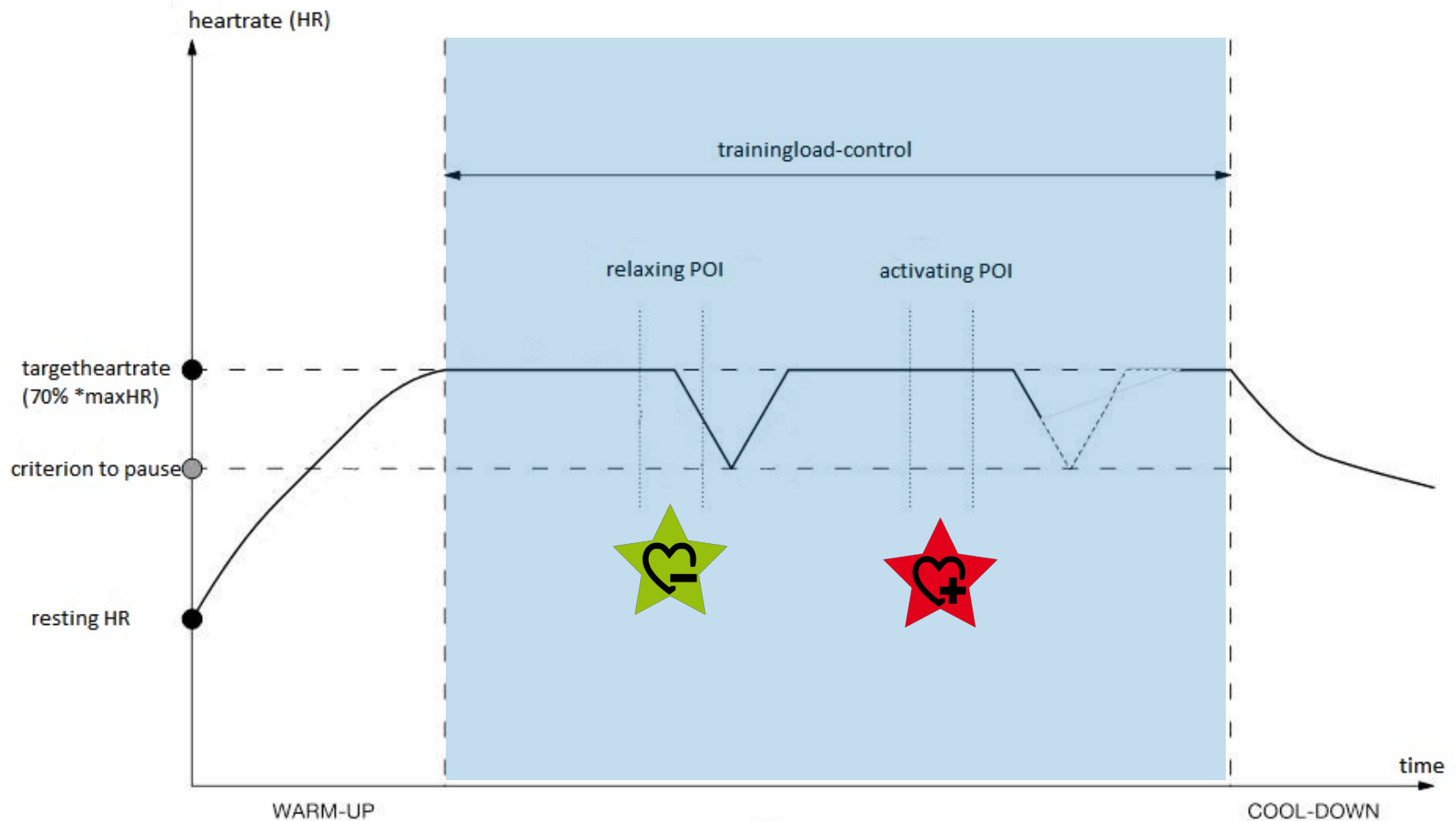
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Mapping area and POI order to interval training



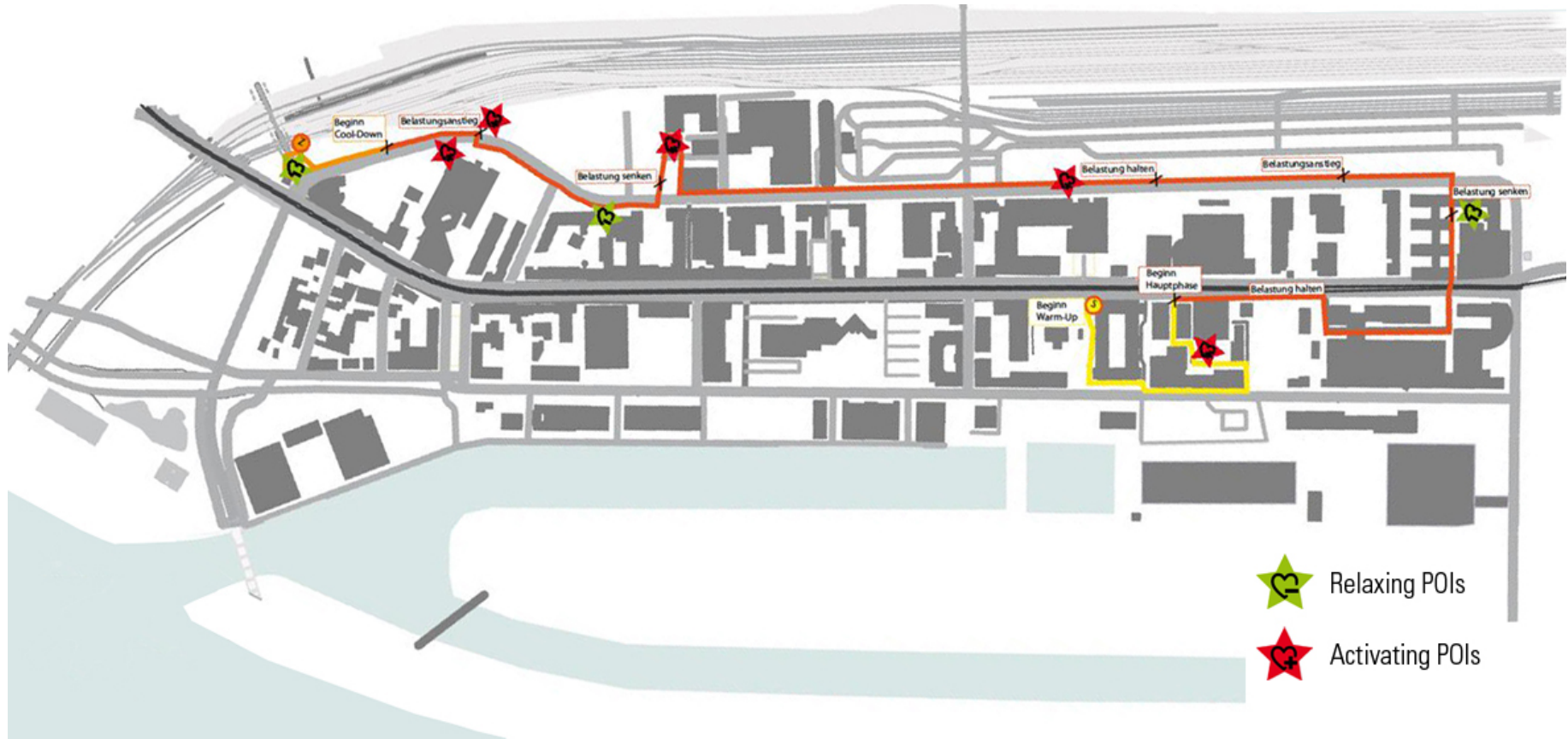
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Exemplary route



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Activating POIs

Train station area

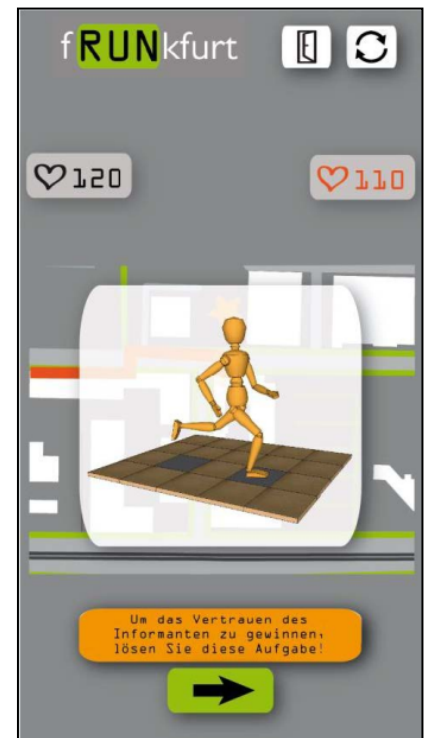
Smartphone connects
exercise to story



Abb. 13: Hüpfen auf Bodenplatten



*„To gain the trust of
your informant solve
the quest“*



Activating POIs



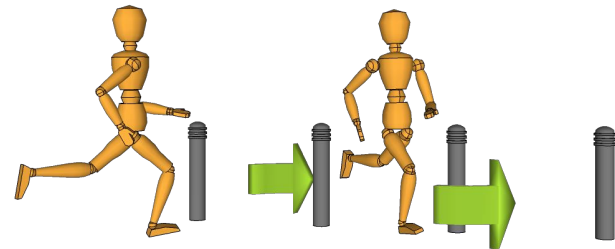
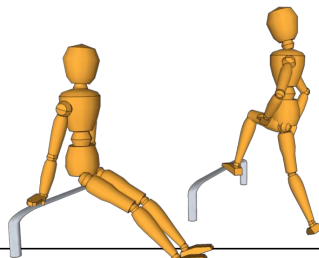
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Abb. 16 Liegestütze auf Sitzmauer



Abb. 15: Slalom um Poller



57

Relaxing POIs (and “brain”work)

Ferdinand Happ Street (Counting)

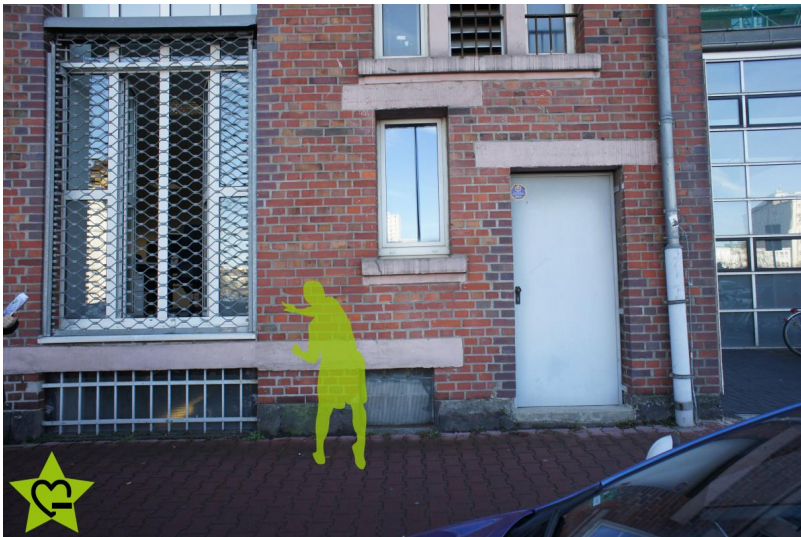
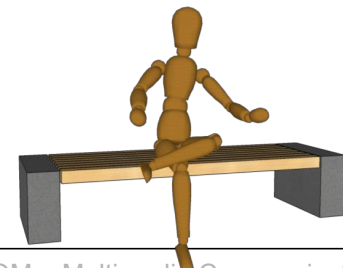
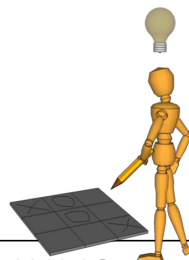


Abb. 36: Quiz Steine zählen

Inner courtyard (Quiz)



Abb. 44: Sitzen, Quiz



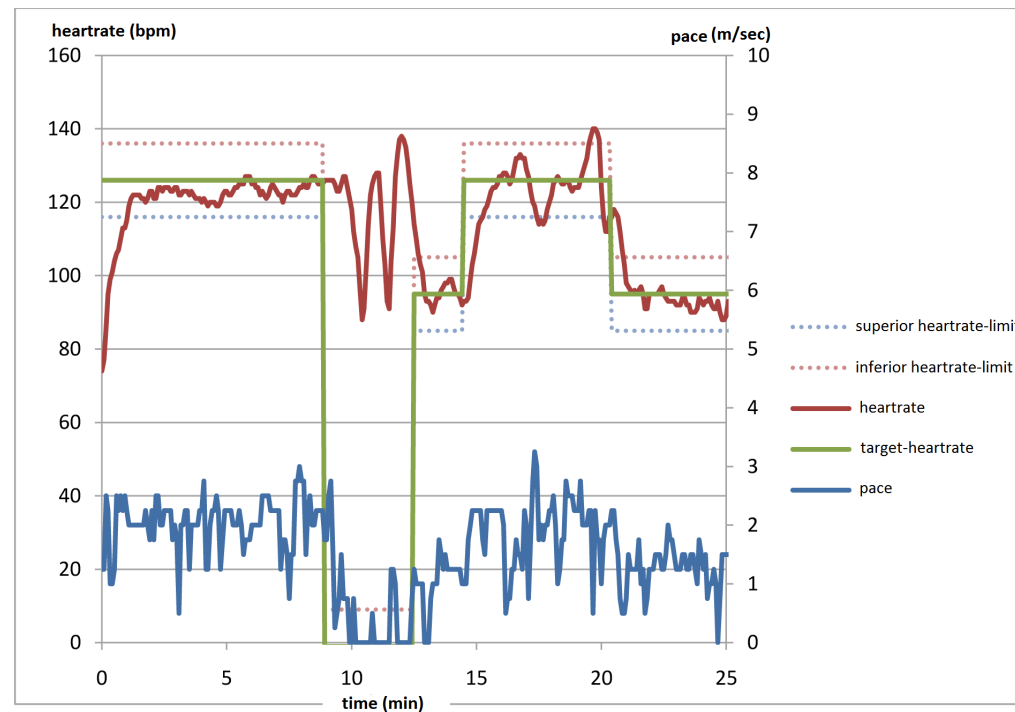
Relaxing POIs

Riverside of „Main“

(Yoga exercises for
breathing with closed eyes)



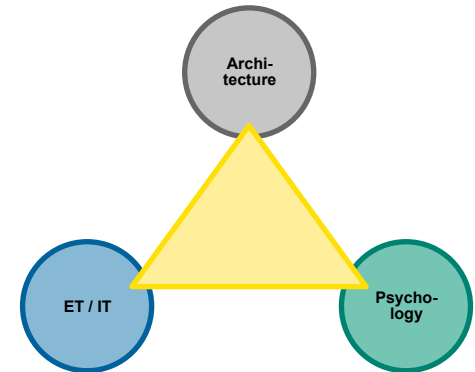
Example of one user's heartrate curve



Preliminary Results

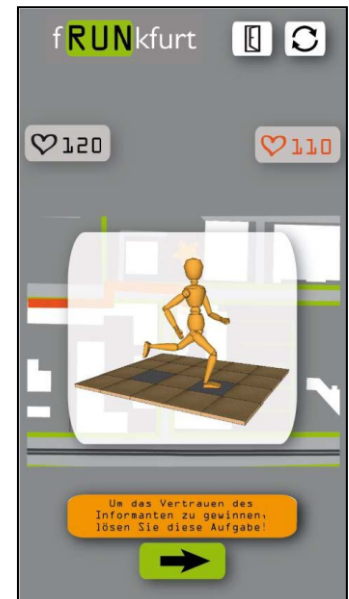
▪ Course format demands

- strong coordination of aims/guidelines
- establishment of common vocabulary
- professional support for hardware and schedule



▪ fRUNkfurt (and other prototypes)

- Data collection can be used for further **urban planning**
- Assess **design elements of digital games** for urban health games



Thank you



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Thank you for

- your interest,
- questions and
- hints.



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Appendix: About this Presentation

Date: September, 16 2014

Lecturer: Johannes Konert

Title: Developing Urban Health Games

**Name of Event: Workshop Smart City Learning –
EC-TEL Conference 2014**

**Organizer: Paloma Diaz Perez, Universidad Carlos III de Madrid,
Spain; Monica Divitini, Norwegian University of Science and
Technology (NTNU), Norway; Carlo Giovannella, Univ. of Rome Tor
Vergata, Italy; Marco Kalz, Open University, The Netherlands; Alke
Martens, University of Rostock, Germany**

Location: Graz, Austria

Reference to publication: Interdisciplinary Course on Urban Health Games - Concept and first results of a new interdisciplinary course on location-based games for health

by Martin Knöll, Johannes Konert, Katrin Neuheuser, Sandro Hardy, Tim Dutz, Michael Gutjahr, Annette Rudolph-Cleff, Joachim Vogt, Stefan Göbel

Download at http://www.mifav.uniroma2.it/inevent/events/sclo_ectel2014/docs/sclo-ectel2014_submission_8.pdf