SoAR - Social Augmented Reality App

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8.6.2016

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Augmented video calls to enhance **problem-solving and communication** in immediate work situations.

**Drawing and pointing:** common ground, situation awareness

**Context:** Learning Layers (EU, 7th Framework) - Learning Environments research group, Aalto Media Lab
SoAR - Technology in Brief

- Open source
- Android 4.0 ->
  Available in Google Play
- Developed with Cordova, based on WebRTC
- Backend: dockerized Node.JS app
- Registration with phone number via SMS

Developed by: Matti Jokitulppo
Use examples

- Skanska Pirkanmaa, Härmälä construction site
  - Measurer & foreman test pair
- BauABC training center, Rostrup, Germany
  - Construction machine operators & instructor
- Aalto University
  - Campus Services & facility maintenance
- QA / auditing (coming up)
Iterative design drives user research

1. How do the users use the application?
2. What are the current communication practices at the workplace?
3. How can SoAR be used for problem-solving and communication in actual work situations?
4. How can SoAR change communication and help-seeking practices in the workplace?
How do the users use the app?

Paper prototyping

Usability testing

Outcomes:
- Usefulness and limitations of drawing on screen
- Screen layout: critical
- Discomfort with phone number registration - mental model
- Hypotheses for future features
Current communication practices at the workplace?

What tools are currently used for communication?
What works well and what doesn’t?

What are the day-to-day situations like, how are they dealt with?
Current communication practices

Facility maintenance:
Highly organized communication chain

Construction:
Flexible communication organized around key employees
Usefulness for problem-solving in actual work situations?

Potential according to field tests:

Troubleshooting machinery, extending operator point-of-view, situation assessment...

Challenges:

Unpredictable use situations, environment: (noise, light), network issues, workplace conventions
How can SoAR change communication and help-seeking practices in the workplace?

Does it have the capability to

- lower the threshold to seek and give guidance?
- enhance the culture of communication and mutual assistance in the workplace?