Towards a Catalogue of Mobile Requirements Elicitation

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This year’s REFSQ

- Presentations: 22
- Talks: 6
- Speaches: 3
- Keynotes: 1
- Live studies: 1

22 presentations, 6 talks, 3 speeches, 1 keynote, and 1 live study.
This year’s REFSQ

- Traditional RE: 29
- Mobile RE: 4
Motivation

• More than 4 million apps available on major app stores
• High uninstall rate
• Mobile apps are fundamentally different than other software systems
How does the community treat mobile requirements elicitation?
Research questions

1. Which are the existing elicitation techniques for mobile apps?

2. What are the characteristics of the current research?

3. How can we help practitioners with technique selection?
Which are the **existing elicitation techniques** for mobile apps?
We performed 3 iterations on 5 digital libraries

Search keywords:
“mobile requirements elicitation”,
“mobile requirement elicitation”,
“mobile requirements engineering”

Out of 182 publications we finally selected 60 publications
We found total 24 techniques

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Gamification
Interview/Survey/Questionnaire
Modelling
Persona/ User profile
Wizard of Oz

App description mining
App log/ App usage data mining
Mining similar apps
Observation/ Contextual data/ Reflection
Opinion mining

Mobile feedback app
Feedback on MVP
# Mobile app specific techniques

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Elicitation techniques in literature

- Mobile RE app
- Scenarios
- Interview/Survey/Questionnaire
- Opinion mining
- Observation/contextual data/reflection
- App log or app usage data mining
- Crowdsourcing
- Prototyping
- Focus groups/workshops
- Persona and user profiles
- Brainstorming
- CRC sessions
- Gamification
- Modeling/Ontology
- Story telling
- Viewpoint or six thinking hats
- Wizard of Oz
- Activity theory
- App description mining
- App store mining for similar apps
- Mobile feedback app
- Photo essays
- User feedback on MVP
- Using social network sites or wikis

# Total papers
Elicitation techniques in literature

- Mobile RE app
- Scenarios
- Interview/Survey/Questionnaire
- Opinion mining
- Observation/contextual data/reflection
- App log or app usage data mining

30% of the publications suggest using mobile devices or mobile apps for elicitation
What are the characteristics of the current research?
Categories of elicitation techniques

66% of the publications suggest using collaborative techniques
Effectiveness of the techniques is questionable

1. Does it reduce the cost of elicitation?
2. Does it increase the quality of the requirements?
3. Does it generate new requirements?
4. Is the technique scalable?
5. How usable is the technique?
Evaluation of proposed techniques is questionable

- Student evaluation
- Case study
- Controlled experiment
- not available

# Papers
Evaluation of proposed techniques is questionable

- Persona, Focus groups, workshops, Interviews, Questionnaires
- Observation or Contextual data
- Crowdsourcing

48% of the publications did not perform any evaluation
Non-functional requirements...

... are **vastly ignored**:

Missing guidelines for developers about security, data privacy, performance, usability
Special users’ needs ...

... are vastly ignored:

~10% of the US population between the age group 24-64 suffers from one of many disabilities
How can we help practitioners with technique selection?
## How can we select techniques

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Future work

1. Extension of this study
2. Industrial exploratory study
Which are the existing elicitation techniques for mobile apps?

What are the characteristics of the current research?

How can we help practitioners with technique selection?

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