Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Institute of Computer Science
Chair of Communication Networks
Prof. Dr.-Ing. P. Tran-Gia

Quality of Experience

Are we measuring the right things?

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Background: Performance Evaluation of Communication Networks

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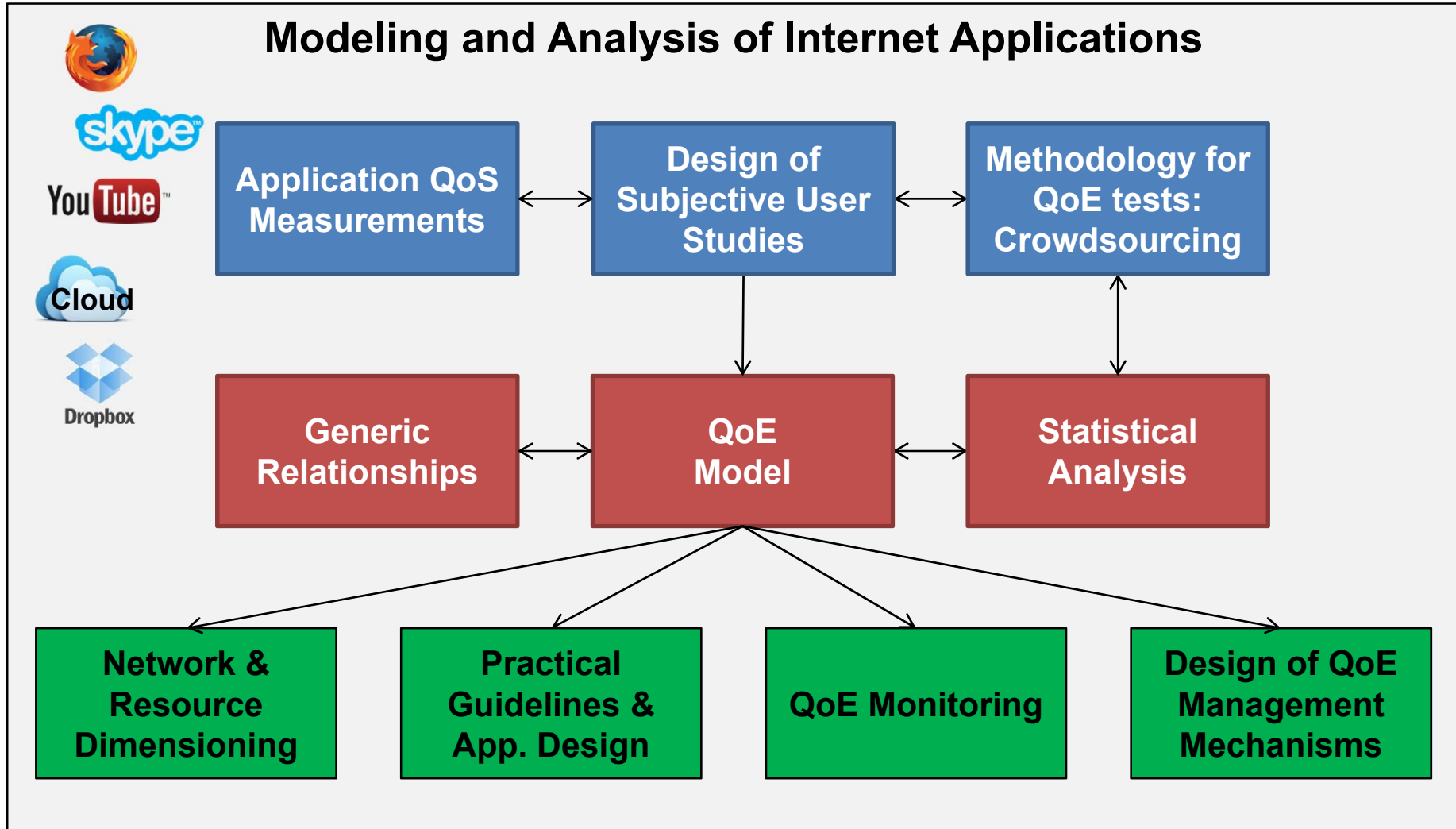
Quality of Experience

Are we measuring the right things?

No!

"We measure what we want to measure!"

▶ Current situation in **standardization**

- **Too old:** not considering technological changes, e.g. web apps
- **Too slow:** Many many Internet apps pop up quickly
  → too much time required to draft a version
- Researchers „**misuse**" standards to „validate" their tests, but often „**misinterprete**" standards or do not consider requirements

▶ **QoE User Tests:** Measuring the delight of a user?

- User surveys in labs measure non-real life, **unrealistic** situations
- **Context** like expectations, user task, environment, etc. not measured
- User **diversity** not reflected
  → new methodologies required: crowdsourcing

▶ **QoS is just renamed: QoE**
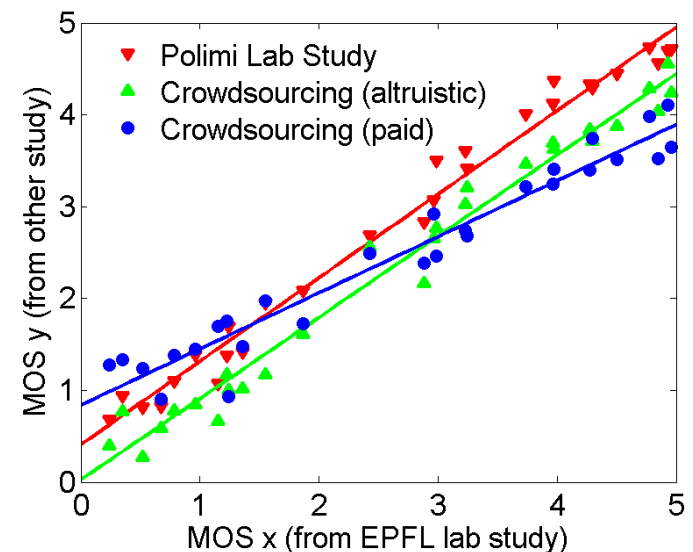
What is required?

▶ **Updated test methodologies and best practices**
- Guidelines for subjective tests: design, execution, analysis
- Crowdsourcing as new methodology
- Reproducible research

▶ **Going beyond pure perceptual quality metrics**
- Known gap between user perception and user reaction!
- User feedback, reaction, behaviour
  as key measurement (instead of/in addition to QoE)
- ➔ Measure user behaviour
- ➔ Integrate user feedback into service delivery

▶ **Holistic models for user's delight or annoyance**
- Identification of influence factors on all levels:
  content, user, system, context level
- Fundamental relationships: user behavior, QoE,
  acceptance, QoS

Holistic Model

- User Interaction
- Quality of Experience
- Quality of Service

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