Enterprise COllaboration & INteroperability

WP 4.5: c-HI Innovative Services
Tools for Human Interaction Support

Florian Skopik, Daniel Schall
Distributed Systems Group
Vienna University of Technology
{skopik|schall}@infosys.tuwien.ac.at

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Scope of c-HI (WP 4.5)

- **Flexible Collaboration Support on Individuals' level**
  - Underneath project planning: partly ad-hoc collaboration.
  - Guidance of interactions in large-scale networks.
  - Adopting concepts from social networks (formation, discovery).

- **Social Trust-based c-HI Support**
  - Optimization of interactions based on social properties and collaboration behavior.

- **Social and Participative Software Support**
  - Flexible discovery and involvement of experts.

- **Adaptive Network-based Information Sharing**
  - Dynamically adapting sharing behavior relying on social relations and collaborative success.

Collaboration Visualization Tool (CVT)

- Visualization of community structures and evolving social networks
  - Individuals
    - Registered profiles (name, organization, e-mail, Skype, …)
    - Dynamic profile data through interaction mining
  - Context-dependent social relations described by interaction metrics
- Application Scenarios
  - Group formation (emerged structures)
  - Social campaigns (interest clusters)
  - Team evaluation (collab. rewarding)
- Innovative Concepts
  - System-managed profiles and relations through analyzing interaction behavior
    - Keep track of network dynamics
    - Unburden users from managing their social networks manually
  - Evidence-based structures through mining
    - No unfair manual ratings
    - No rating quality variations over time
  - Embedding of baseline human interaction services

Trusted Information Sharing (TIS)

- Document-centric information sharing accounting for:
  - Dynamically changing skills, expertise and interests
  - Dynamically adapting and evolving social and collaborative structures
    - Altering social relations
    - Flexible activity participation
- Application Scenarios
  - Sharing of sensitive data in highly dynamic environments
  - Sharing of information in social campaigns (propagation of invitations)
- Innovative Concepts
  - Dynamically changing access rights
    - Based on previous collaboration outcome
    - Based on emerging social relations
  - Fine-grained sharing model
    - Define sensitivity levels within a document depending on info type (XML)
    - Share more information with closer collaboration partners (system managed)
  - Actively facilitate collaborations
    - Push information to close partners (avoid spamming but stimulate interest)

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<author>
  <p:firstname>Florian</p:firstname>
  <p:lastname>Skopik</p:lastname>
  <p:organization>TU Vienna</p:organization>
  <p:email>skopik@infosys.tuwien.ac.at</p:email>
</author>
```

3. SPECIFY TRUST SHARING RULES

	Tag	Scope	Metric	Value
Rule 1:	/paperdraft/author	scientific dissemination	Activity Success >	50
			Personal Trust >=	75
Rule 2:	/paperdraft/body	scientific dissemination	Activity Success >	75
			Personal Trust >	90

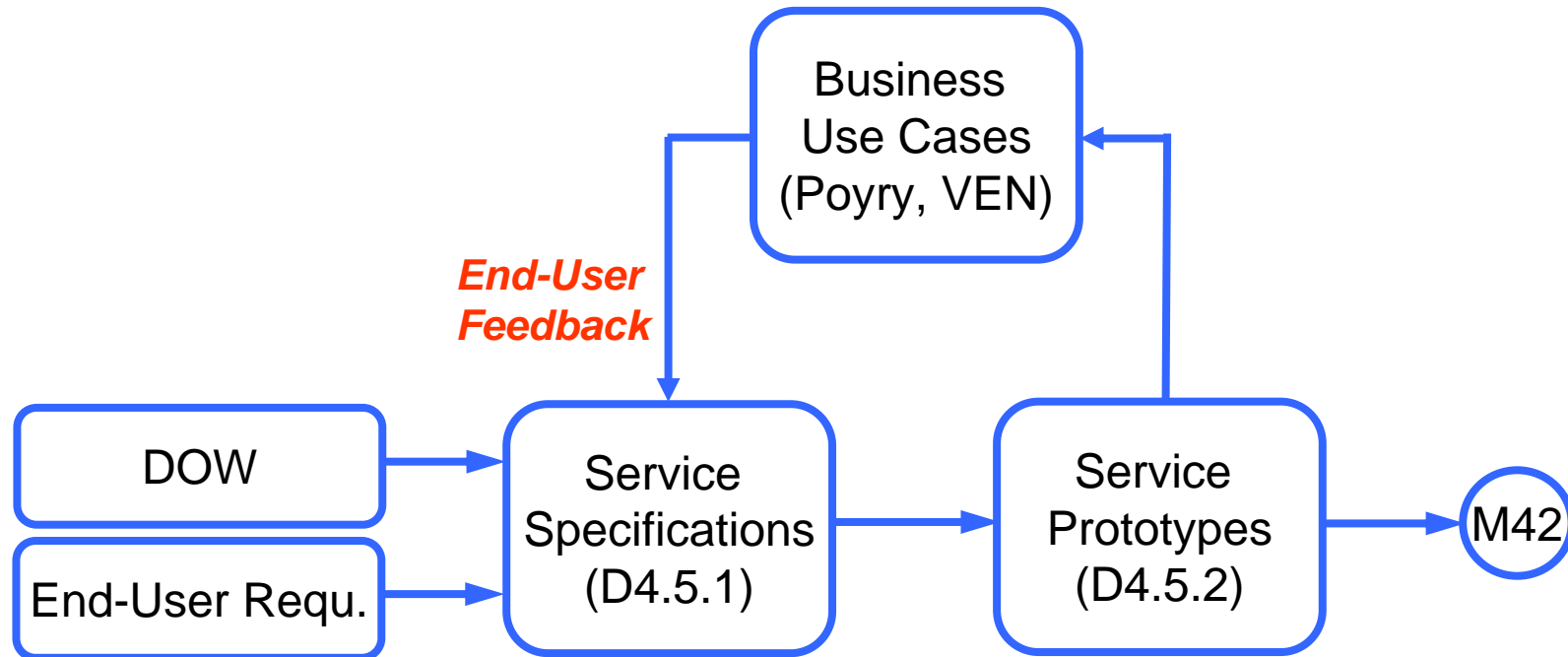| Scope	Metric	Value
scientific dissemination	Availability >	
	Availability	
	Activity Success	
	Personal Trust	

Trusted Online Help and Support (TOHS)

- Flexible discovery and involvement of trustworthy experts accounting for:
  - Dynamically changing skills, expertise and interests
  - Contextual constraints to find best available expert in community (availability, online state, organizational boundaries, comm. channel …)
  - Personal preferences and social trust relations
- Application Scenarios
  - Ad-Hoc expert discovery in emergency situations
  - Team assembly
  - Interest group formation
- Innovative Concepts
  - Personalized expert discovery
    - Ranking based on someone's surrounding network
  - Flexible involvement of experts
    - No negotiations and agreements
    - But instant involvement through baseline interaction services
  - Account for contextual constraints, e.g., from higher level process
    - Deadlines and urgency influence interaction channel selection (e.g., e-mail v.s. Skype)

One or more of specified skills:

Software/SE/Specifications/Languages

TOHS Search One or More

Context parameters (optional)

☐ Expert is online (via Skype)

☐ HPS interaction (via Web services)

☑ Apply metric Availability 50
set value for minimum threshold (a number between 1 .. 100)

Iterative Development in WP4.5

Deliverables in WP4.5:

- D4.5.1a Service Specifications (M12)
- D4.5.2a Service Prototypes (M18)
- D4.5.1b Final Service Specifications (M24)
- D4.5.2b Final Services (M36)

End-User Feedback

- ## Collaboration Visualization (CVT)
  - Privacy-aware browsing (#hops in the social graph restricted)
  - Personalized view (relation between 3rd parties may be omitted)
  - Instant interactions supporting group formation
  - Context data influences browsing patterns (scopes)

- ## Trusted Information Sharing (TIS)
  - Integration with industry-applications (e.g., MS Project)
  - Activity-centric sharing in groups (not only P2P)

- ## Trusted Online Help and Support
  - Discover people based on interests (bootstrapping)
  - Consider people's context (location, avail. interaction channels)

Progress in 3rd Year

- Implementation (D4.5.2b – final prototypes)
  - Service development finished (CVT, TIS, TOHS)
- Integration Effort
  - Integration with other WP's services (e.g., Coll4PM, C3P)
  - Hosting on GSP (c-HI ontology definition)
- Customization for Partners (Poyry, VEN)
  - Dedicated service instances
  - Data collection (Poyry communication data, VEN member profiles)
  - Feature extensions to match end-users' needs
- Business Use Case Support in Cross-Teams
  - Poyry: cross-enterprise collaboration (implemented: CVT+TIS)
  - VEN: social campaigns (discussed: CVT+TOHS)
- Dissemination in scope of WP 4.5
  - 13 conference papers (ACM, IEEE, Springer)
  - 2 Journal papers
    - Elsevier Information Systems (IS)
    - IEEE Transactions on Services Computing (TSC)

Thank you.

skopik@infosys.tuwien.ac.at

schall@infosys.tuwien.ac.at