



HarmoniQuA

**Support technology for modelling in
collaborative processes:
the HarmoniQuA approach**

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Structure

- Problems to be solved
- Modelling support
- HarmoniQuA's Modelling Support Tool (MoST)
- Functional architecture
- Demonstration of MoST
- Conclusions

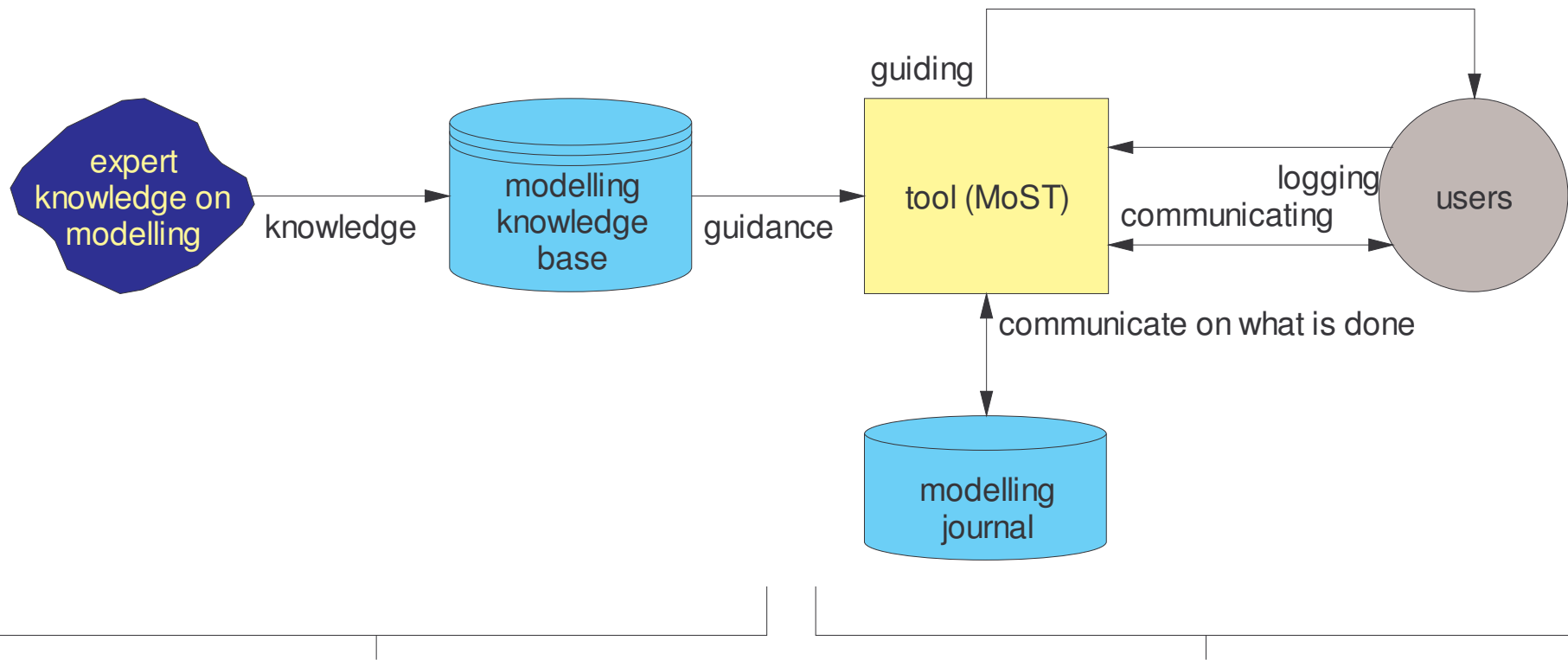
Modelling problems to be solved

- ❑ **Ambiguous terminology** and a **lack of mutual and shared understanding** between key-players (modellers, clients, auditors, stakeholders and concerned members of the public);
- ❑ **Malpractice** (careless handling of input data, inadequate model set-up, insufficient calibration and validation and model use outside of its scope);
- ❑ Lack of **data** or poor quality of available data;
- ❑ **Insufficient knowledge** on processes hindering ecological (biota) modelling;
- ❑ **Miscommunication** of the modeller to the end-user on the possibilities and limitations of the modelling project and overselling of model capabilities;
- ❑ Confusion on **how to use model results** in decision making;
- ❑ **Lack of documentation and transparency** of the modelling process, leading to projects, which hardly can be audited or reconstructed;
- ❑ Insufficient consideration of economic, institutional and political issues and a **lack of integrated modelling**.

Modelling support

- Modelling is widely used in **water management management**
- Modelling is performed by a **multidisciplinary team**, consisting of water manager, several modelers (from different water management domains), stakeholders, public, auditor
- Modelling support** by:
 - Guiding** (what should be done)
 - Monitoring** (what actually has been done)
 - Reporting**

HarmoniQuA's MoST



workshop 5B

workshop 4E

MoST's functions (1)

- ❑ Providing **guidance** from the modelling knowledge base, filtered for user roles and relevant water management domains
 - ❑ 3 views on the modelling process:
 - ❑ **Tree view** for quick browsing
 - ❑ **Flowchart view** for order of tasks
 - ❑ **Task view** for details on what to do
 - ❑ Want to know more → go to **workshop 5B)**
- ❑ **Setting up** modelling projects
 - ❑ Which domains and subprojects?
 - ❑ Fine tuning the modelling process for this project
 - ❑ Which (multidisciplinary) team members?
 - ❑ Authorization of users (reading, writing, decisions)
 - ❑ How to evaluate the project: fine tuning of scoreboards

MoST's functions (2)

Running projects

- Each team member works in an activity (= part of a task), following the modelling knowledge base guidance:
 - Describing **details, actions and outcomes**
 - Attaching** relevant documents
 - Providing **resource information** (time spent)
 - Indicating **methods** used
- What team members do is stored in a **model journal**
- Authorized team members can **inspect** what others did in model journal
- Managers can use MoST for **project management**
 - Which tasks are started
 - Which tasks are completed
 - Which still have to be done

(continued on next slide)

MoST's functions (3)

(continued from previous slide)

- Some special tasks: **decision task** and **review task**
 - Someone has to decide
 - To continue with next task
 - To redo some previous tasks
- Tasks can be performed **parallel**
- Team members can decide to describe what they did at **2 levels of detail**:
 - At task level (sketchy)
 - At activity level (detailed)

MoST's functions (4)

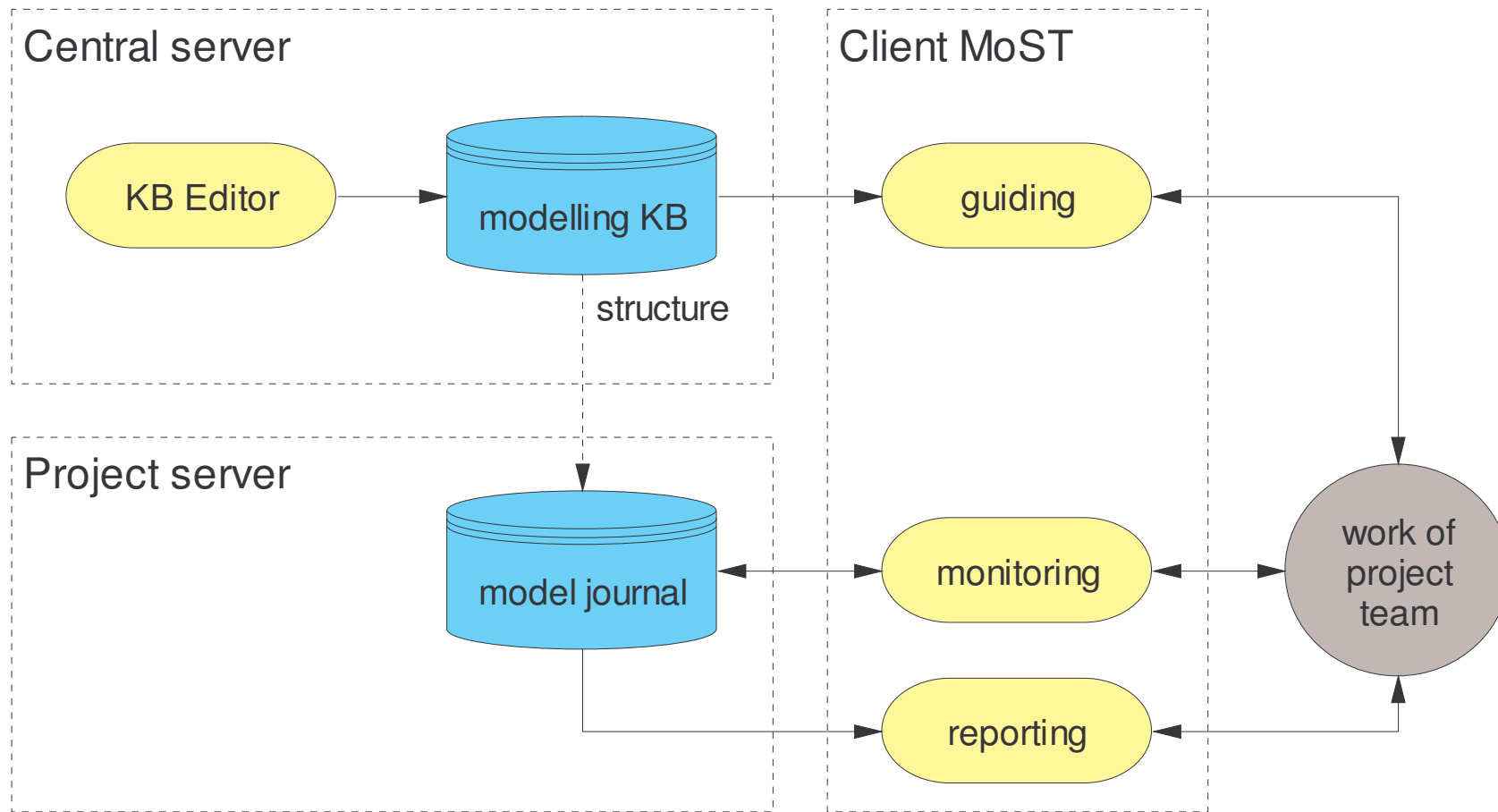
Reporting

- MoST helps in creating reports for
 - Various purposes (project management, logbook, project justification)
 - Various audiences (manager, auditor, modeler, others)
- Reports in 2 formats
 - HTML (easy to convert to word processor formats)
 - PDF (publishing, sharing)

Summary

- Modelling guidance
- Modelling journal enables better communication
- Modelling project management
- Transparency

MoST's functional architecture



Demonstration

- Guideline part of MoST used to get guidance (also workshop 5B)
- Setting-up modelling projects
- Running a modelling project
- Reporting

Conclusion

- MoST
 - Provides **guidance** (from modelling knowledge base)
 - Helps keeping a modelling log → **model journal**
 - Helps **managing** modelling projects
 - Helps **reporting**
 - Facilitates **auditing**
- <http://harmoniqua.wau.nl/> (for free)
 - Papers
 - Software (registration required)
 - KB (registration required)
- Yesterday, we had a kick-off meeting of the **Post HarmoniQuA Collaboration Framework**
(aiming to keep the modelling-KB and MoST alive; feel free to join)