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DATA SERVICE INFRASTRUCTURE FOR THE SOCIAL SCIENCES AND HUMANITIES

New Tools for Complex Surveys:

the DASISH Questionnaire Design and Development Tool and the Question Variable Data Base

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Outline

- Introduction
  - the Data Service Infrastructure for the Social Sciences and Humanities (DASISH) task 3.2 tools and interoperability
  - the Questionnaire Design and Development Tool (QDDT)
  - the Question Variable Data Base (QVDB)
- DDI usage
  - Why DDI?
  - What DDI will be used?
  - How we work with DDI in practice
- A common metadata understanding for the three tools
  - Work towards a common metadata understanding for the task 3.2 tools
  - Requirements for a common metadata model

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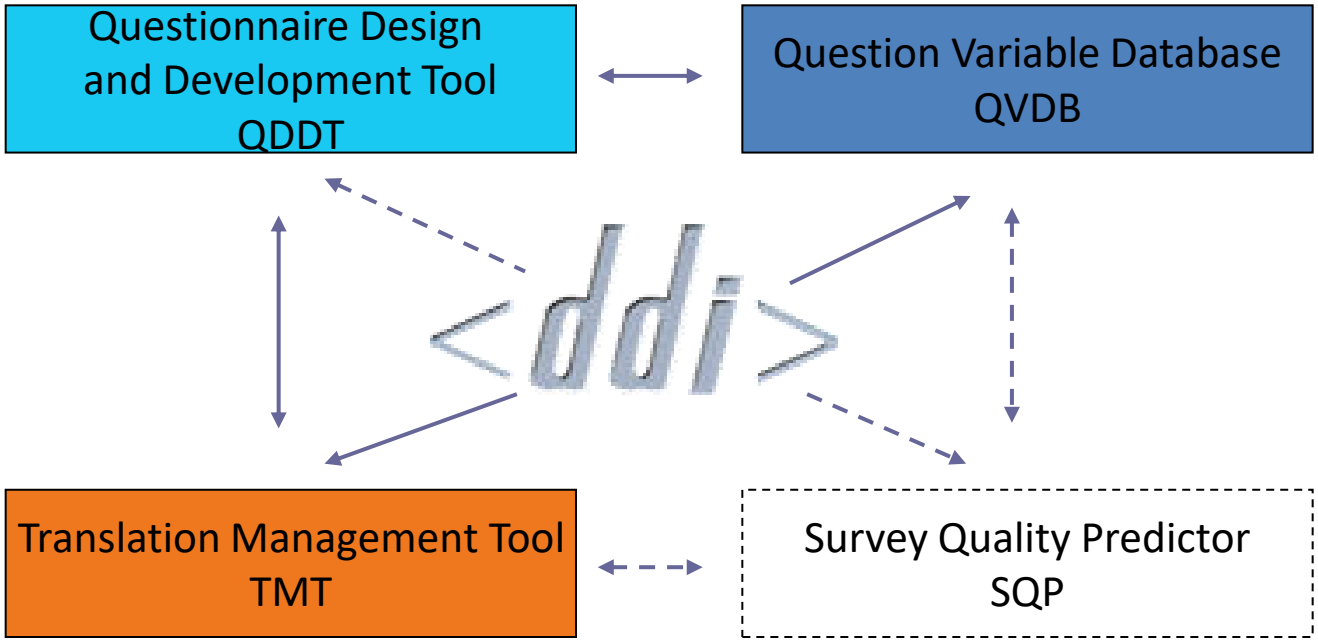
DASISH task 3.2 tools



- Interoperability between the three tools QDDT, TMT and QVDB is the key
- Possibilities for interoperability with SQP should be explored

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The Questionnaire Design and Development Tool (QDDT)

- Purpose:
  - Facilitate and document questionnaire development
    - of the European Social Survey (ESS) researchers involved in questionnaire design
    - of other survey projects
  - Reveal rationale behind the design of questions and entire modules
  - Document results of pretesting
  - Questionnaire output (CAPI, PAPI, Web survey)

  - Browsing possibilities for researchers and students
  - Interoperability with other systems and tools
  - Reusable model and code

- Possible users:
  - ESS is the usecase
  - Other DASISH survey projects
  - Projects outside DASISH
  - Researchers and students

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The Question Variable Data Base (QVDB)

- Purpose:
  - Searchable database with broad public profile
  - User access to survey questions in original languages, concepts, variables etc.

  - Primary aim: To serve business processes of the ESS and other surveys
  - Browsing possibilities for researchers and students
  - Interoperability with other systems and tools
  - Reusable model and code

- Possible users (same as for the QDDT):
  - ESS is the usecase
  - Other DASISH survey projects
  - Projects outside DASISH
  - Researchers and students

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QVDB and QDDT, a selection of the requirements

- DDI - Lifecycle based storage structure for metadata elements of high level of granularity
  - multilinguality
  - study-independent components
- DDI - Lifecycle and DDI-Codebook export and import possibilities to/from tools/web-services
- Communication between the three tools should be possible; minimal human interaction
- Support boolean field level search
- Reusable database model
- Core module based on DDI components; DDI profile; Resource Packages
- Open source system
- User access rights

DDI usage: Why?

- The model

  DDI-Lifecycle (3.2) excellent metadata model for complex surveys

- Communication

  DDI makes communication between the DASISH task 3.2 tools and other tools possible

DDI usage: What?

Which version of DDI?

- DDI-Lifecycle
  - 3.2 (public review version) new functionality
  - Look to DDI4 developments
  - Loose DDI coupling to allow for compatibility with different versions

- Compatibility with DDI-Codebook is an aim

DDI usage: What? (2)

Useful new things in DDI 3.2 (review version of October 2013):

- Data element/represented variable
  - study independent components of variable
- Data element concept/conceptual variable
  - links universe to concept
- Separate system for missing values
- Question grid
  - allows for structuring complext questions/grids

DDI usage: What? (3)

Useful new things in DDI 3.2 ctd.:

- Categories can have concepts
  - useful for categories with complex meaning
- Scale domain
  - interesting alternatives for display formats
- Codelist scheme
- Fragment
  - transport of maintainable/versionable objects in any order, e.g. questions
- New identification system

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DDI usage: How?

- QDDT:
  - Focus on ESS questionnaire development workflow, actors and outputs.
  - Find metadata elements :
    - Analyses of documents used in current questionnaire module development
      - ESS questionnaire
      - Questionnaire Design Template currently used

- QVDB:
  - Focus on business processes of the ESS to detect possible usages of the QVDB at different stages in the survey lifecycle
  - Find metadata elements:
    - Analyses of output from the different stages of the archive processes
      - documents, protocols, reports
      - variable specifications

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DDI usage: How? (2)

- Mapping of identified metadata elements to DDI – Lifecycle (DDI 3.2 public review version)
- Explore other tools (Questacy, MISSY, Colectica etc.)
- Look to DDI models for DDI based tools (MISSY)

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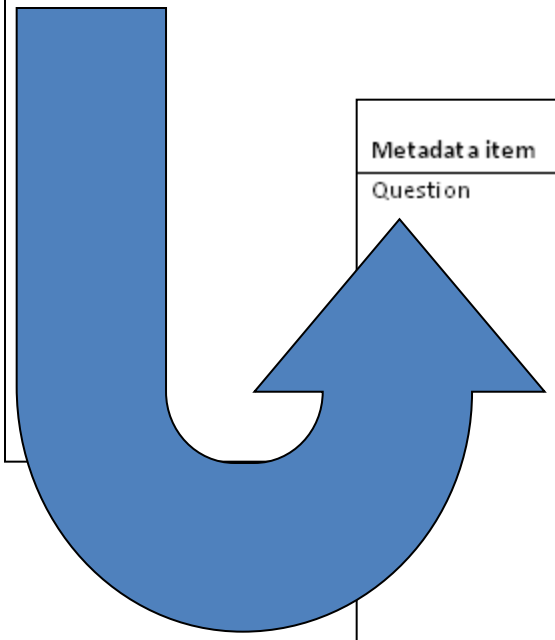
Mapping of metadata elements to DDI

A1 CARD 1 On an average weekday, how much time, in total, do you spend watching television? Please use this card to answer.

No time at all	00 **GO TO A3**
Less than ½ hour	01



Metadata item	DDI Parent Element	DDI element	Comments and DDI details
Question	d: QuestionScheme	d: QuestionItem	Applies to all ESS rounds. Se e.g. Round 6 source questionnaire available at http://www.europeansocialsurvey.org/docs/round6/fieldwork/source/ESS6_source_main_questionnaire.pdf DDI element definition: Structure a single Question which may contain one or more response domains (i.e., a list of valid category responses where if "Other" is indicated a text response can be used to specify the intent of "Other"). Content of DDI element: (r:URN | (r:Agency, r:ID, r:Version))[1..2], r:UserID*, r:UserAttributePair*, (r:VersionResponsibility | r:VersionResponsibilityReference)?, r:VersionRationale?, r:BasedOnReference?, r:MaintainableObject?, QuestionItemName*, r:InParameter*, r:OutParameter*, r:Binding*, QuestionText*, QuestionIntent?, (ResponseDomain | StructuredMixedResponseDomain)?, ResponseCardinality?, r:ConceptReference*,

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Work towards a common metadata understanding for the three tools

Requirements for a common, DDI-L based metadata model:

Issues to be resolved:

- Which metadata elements will be used in the transfer between the three tools?
- Mapping between the metadata elements and the DDI
- The direction for the flow of metadata elements between the three tools, as well as the steps in the work processes at which metadata components are exchanged
- Administrative ownership of metadata
- A common identification and versioning system, including a versioning policy
- How the exchange of DDI metadata takes place, which type of DDI instances or fragments that will be transported, and which type of web-service will be used

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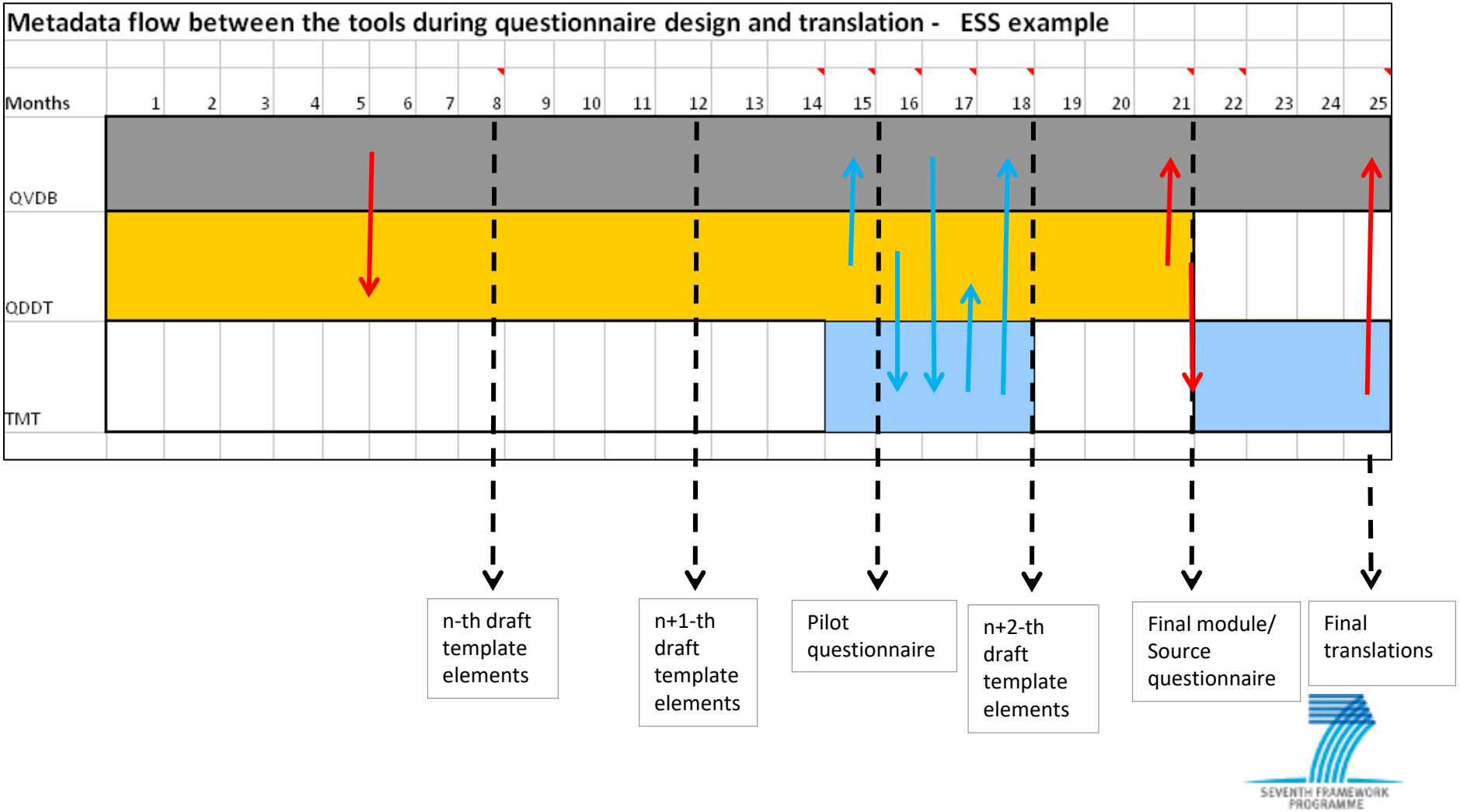
Example: Metadata flow between the three tools



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Example: Identification system

Best practice for common identifiers/PID?

- DDI3.2 URN canonical vs. deprecated
- Role of agency in identifier (DDI4 Sprint#1 discussions)
- Usage of user id
- Other identification issues

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Work towards a common metadata understanding for the three tools (2)

- Work continues
- Fill requirements for common DDI-L based metadata model with content
- Ideas for best practices?

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