

## Deliverable 7.1 Written specification of interface capabilities

This specification will list desired functionalities for the user interface, in particular it will provide:

- a detailed specification of search options
- types and formats of search results
- differences in demands by target group
- form and technology-related user requirements

*This specification document aims at presenting the desired functionalities as an “ideal case” scenario. It is meant to provide a comprehensive starting point that will be narrowed down to a concrete plan for a feasible implementation of the interface.*

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### CONTEXT INFORMATION:

#### Users

- we distinguish four broad types of users: teachers, trainers, testers, linguists

#### Working context for using MERLIN data

- using texts for illustrating competence levels (CEFR) (to learners, in the classroom)
- using texts for preparing teaching materials, defining teaching targets
- using texts for defining assessment criteria
  
- teachers are working on these tasks in a team
- many users work with more than one of the MERLIN languages in parallel

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### REQUIREMENTS SPECIFICATION:

#### Relevant data types:

- unannotated learner productions (without annotations and ratings added)
- annotated learner productions (including original, corrections AND decision criteria/rater comments)
- complete target hypothesis (ZH1) of learner productions
- test tasks (also together with learner texts)
- rating scales/criteria (also together with learner texts)
- groups of texts (according to metadata filters)
- prototypical learner productions per level
- plain feature lists (without texts)

**Relevant information on the data:**

- features of learner language
  - vocabulary and grammar (++)
  - text characteristics (+)
  - sociolinguistic criteria
  - vocabulary frequencies
- metadata on texts
  - author related information (L1, age, gender)
  - level of test task (++)
  - type of test task (++) (text type)
  - ratings
  - learning setting of the learner (e.g. classroom, private studying, personal trainer, etc.) before taking the test ('learning context (+)
  - aim of task
  - allowed time for completion
  - text typology (e.g. genre)
  - text content
- information derived from texts
  - size of vocabulary (++)
  - sentence complexity (++)
  - variety and frequency of learner language features (+)
  - listing of learner language features and their values for sampled subgroups (e.g. by CEFR level, by L1 of learner, etc., also mix of L1, to counter "over-sensitivity" of rater), for example vocabulary range

**Different access modes to MERLIN data**

- searching:
  - by features/words/lemmas/RegEx
  - for texts with features of different CEFR levels (e.g. voc B2, but cohesion A2)
- browsing:
  - by metadata information
  - by document type (i.e. learner production vs. test task vs. rating scale/CEFR documentation)
- filtering:
  - by metadata information
  - by features

**Display modes:**

- entire text or wider text section (for teachers also separate sentences), - for both modes with the possibility to have a parallel view on the original learner text and the corresponding target hypothesis
- learner language features inline in text (e.g. highlighting)

### **General functions to manage data:**

- attaching notes and comments
- storing information (e.g. bookmarking, history)
- 'team area', sharing information among users
- flexible data export (e.g. single texts, groups of texts, single paragraphs/sections)
- feedback function for users to comment on annotations/rating decisions
- discussion area (also with MERLIN experts)
- contextualized help
- support for regular expressions searches
- support for XML data handling

### **Target group specific preferences**

- Teachers are interested in vocabulary and grammar
- Trainers/testers are interested in text characteristics, formal conventions; feature lists and test tasks
- Linguists are interested in vocabulary frequencies and sociolinguistic aspects; lists of features and metadata
- Importance of metadata and frequency information for: linguists > trainers/testers > teachers
- Teachers require bookmarking and collaborative working
- Linguists, trainers and testers are more in need of exporting than teachers

### **Platform structure**

- Keep functionalities for aggregation/quantitative analysis and text selection/text search separate
- Present search functionalities in non-corpus-linguistics style, but task oriented (e.g. sentence complexity instead of sentence length in words)

### **Technical requirements**

- Should not require to install plugins etc. (> 65% of users require support for installations)
- 80% Microsoft Windows environments
- Browser support for Internet Explorer, Firefox, Chrome
- Difficulties with .xml files, also .txt and .odt
- Difficulties with reading/understanding XML data



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