



Recognition and Enrichment of Archival Documents

D5.4. e-learning application

To train and test transcription against ground-truth documents - 2017 update

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Distribution:

<http://read.transkribus.eu/>

**READ
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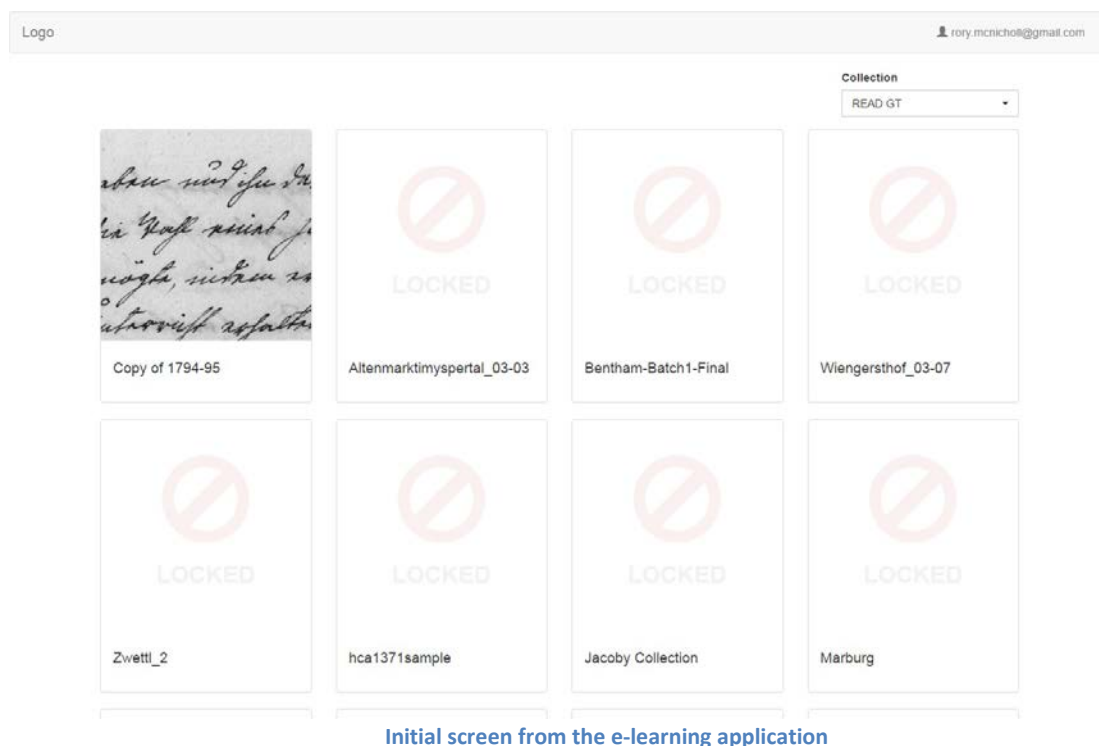
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Executive Summary

This document provides an overview of an e-learning application designed to help the general public improve their transcription skills before using the other transcription tools. An additional report on changes to the platform in 2017 has been appended.

1. Purpose of E-learning function within READ

The purpose of the [e-learning application](#) within the context of the READ project is to provide a web user interface that will act as an introduction to HTR assisted transcription and the other more complex outputs of the project.



Users are presented a selected sample of texts that they can use to practice the reading and transcription of words. Their progression is tracked and scored so that e-learning application

can be configured to provide a criterion for access to transcription of “real” yet to be transcribed documents.

2. E-learning application in detail

2.1 Source material

It is required that the documents selected for the e-learning application have a ground-truth transcription. The configurable ordering of how the texts are presented allows a collection owner to provide a progression from simpler to more difficult to read texts as appropriate.

Data on the proportion of correctly transcribed words – as per the ground truth – is stored against the user object, and made available to other applications for use as access proficiency for user as a criterion for access to the editing functions for a given collection. So the criterion for a collection X maybe that “user Y has correctly transcribe > 90% words for test Z. “

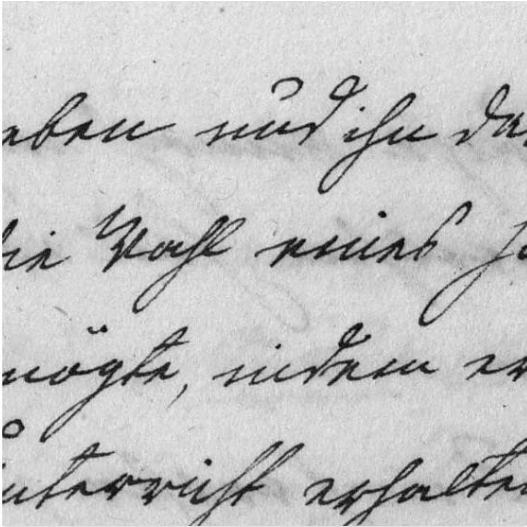
2.2 Initial screens

On arrival the user can choose from the documents that they are associated with from a dropdown menu, though only the documents specifically selected for the e-learning app will be available (i.e. those with ground-truth and a flag set by the collection owner).

Once a document is selected the user is presented with data on proficiency and previous sessions and a choice to then train, test or explore the document.

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Main / Copy of 1794-95



Proficiency

Lower Case
Upper Case
Special Characters
Numbers

c	
t	
h	
n	
m	
a	
e	
i	
r	
o	
d	

Activities

Training
Testing
Explore

Most Recent Sessions

Id	Type	Length	Done	Default
44	training	15	No	Yes
45	testing	15	No	Yes

[Return to READ main site](#)

Initial document screen, with proficiency, recent session and options

2.3 Training and testing

Training sessions allow the user to practice transcription. Entering a word and pressing “check” or alternatively pressing “cheat” to reveal the ground-truth word. The data from test sessions are not used to calculate proficiency scores. Proficiency scores are broken down by character to help inform users training and document exploration.

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Main / Copy of 1794-95 / Training / Item 436

Item 436



Verlust empfinde ** einem hienechst

a n

Correct solution is an

[Return to READ main site](#)

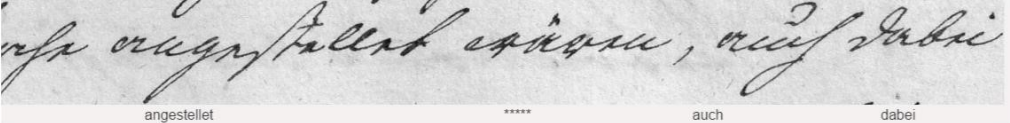
A correct guess

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Item 437

Continue



angestellt ***** auch dabei

Incorrect!
Correct solution is **wären**

[Return to READ main site](#)

Incorrect guess

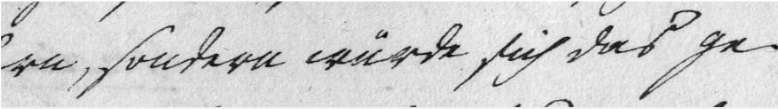
The test function presents the same however the scores from these sessions are used to calculate the proficiency score.

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Item 431

Continue



sondern würde ***** das ge

Correct solution is **sich**

[Return to READ main site](#)

Cheat: the answer can be revealed despite no attempt made to transcribe

2.4 Results

Results are presented to the user at the end of the session showing the proportion of correct, incorrect, cheated or unfinished. A break down then follows which allows the user to review each line.

LEARN

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0%
(0)
CORRECT

0%
(0)
INCORRECT

0%
(0)
CHEATED

100%
(10)
UNFINISHED

1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show
1	No Data	Show

Return to READ main site

Results screen: #TODO get a screenshot of a more interesting result screen

2.5 Explore

The explore option allows the user to hone in on specific characters and symbols. This allows them to self-select characters with which they may be having difficulty. Lines with words containing the target character are presented to the user for review.



Explore screen, exploring lines with the character 'c'

2.5 Note on presentation technique

The words to transcribe are presented in the context of their containing line. The line image above the transcript below (with the target word starred-out). This box-per-character input can be used to enter a guess. The source transcript documents (in the PAGE XML format) tags data to the line level only, so the position of the word within the line must be calculated given the line length and number of words. This then allows the words in the text box to be presented beneath the appropriate part of the line image. Image and text can be scrolled in parallel so the user can read the whole line if need be.

3. Integration

Like the other web-UI elements, the e-learning application has been written using the python-Django framework. The e-learning application is an “app” in the Django sense. This means it can be integrated with other web-UI apps and maintained by those familiar with the web UI code base. The e-learning application makes use of the READ utilities app to interact with the transkribus RESTful web service.

4. 2017 update

In 2017 the e-learning interface deliverable has been completed and released at <http://learn.transkribus.eu>. A selection of material has been made available to allow members

of the public to practice transcription and familiarise themselves with the handwriting in those collections.

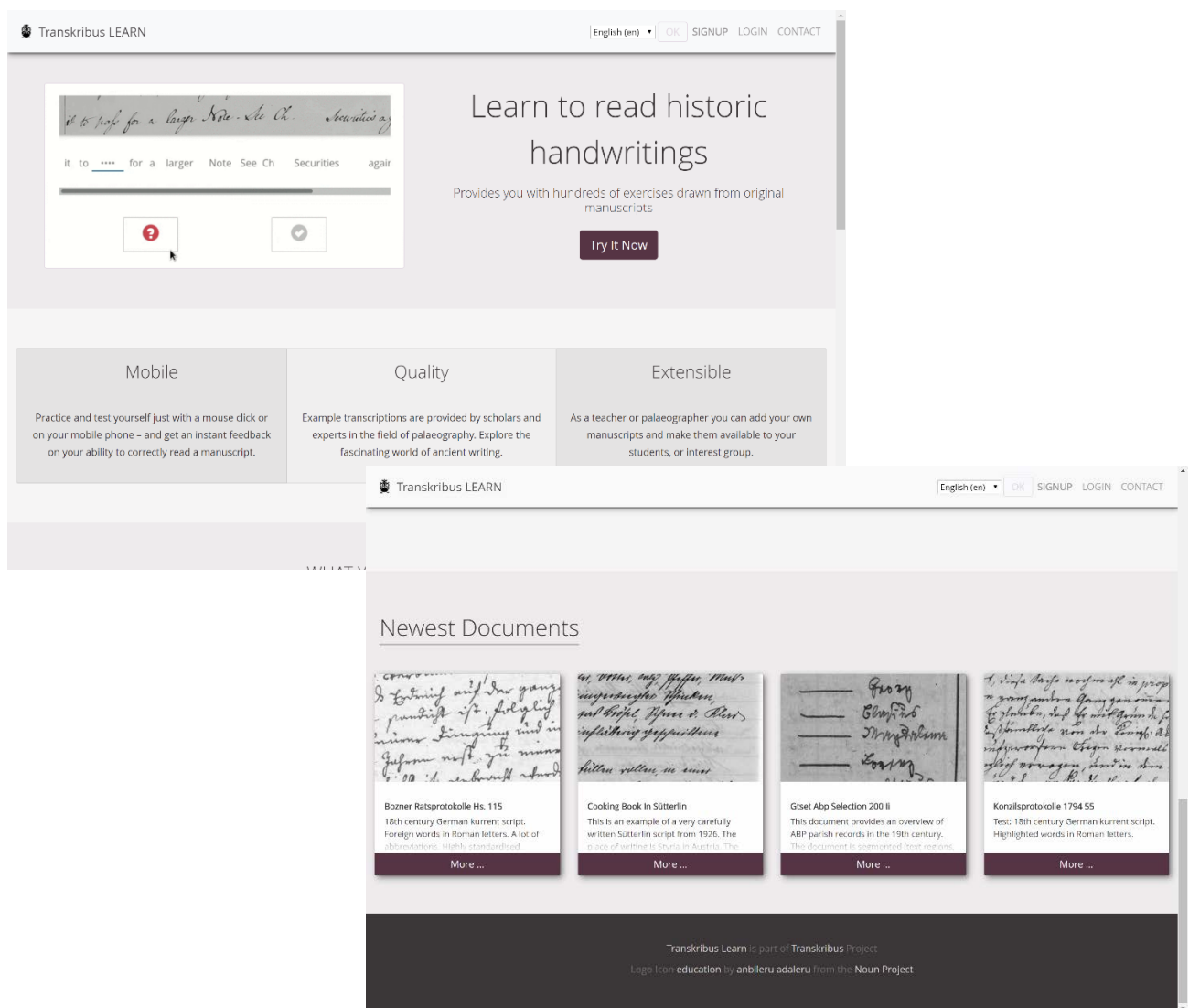


Figure 1 learn.transkribus.eu landing page

A homepage explaining the purpose of the application, some project information and links to the “Newest documents” has been put in place. The site has been responsively templated to allow a consistent user experience on all devices.

4.1 User home

After login the user is presented with a list of the collections to choose from (see Fig 2) or if they have already accessed the site they are brought to the menu options for the last collection viewed. The menu options present the choice to Study, Test or Explore the collections and also to view some user learning statistics or switch to another collection. A sidebar is used to presents some further options (fig 3).

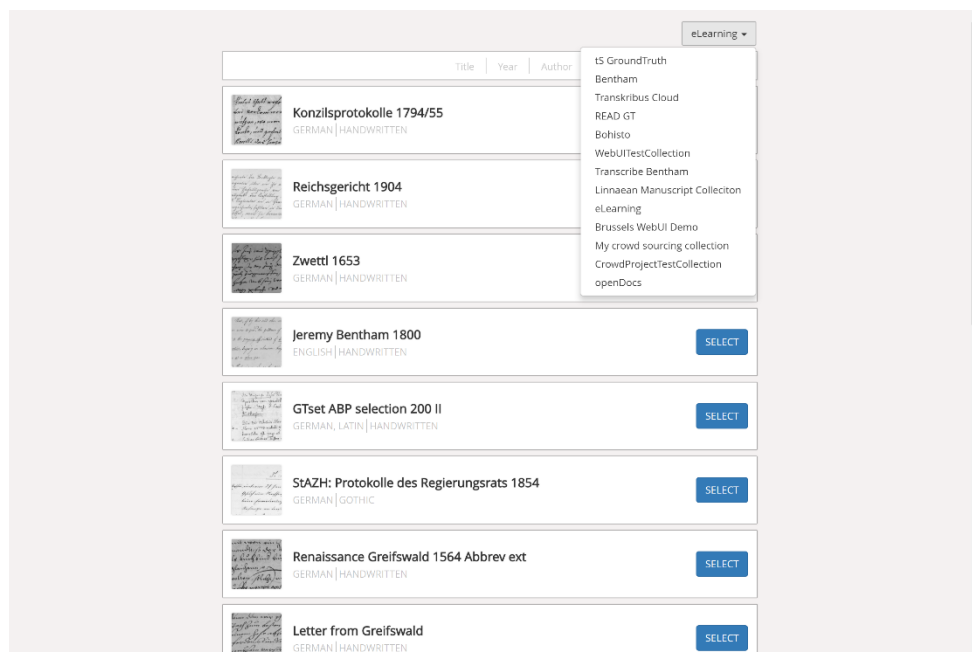


Figure 2 the list of collections available via learn.transkribus.eu

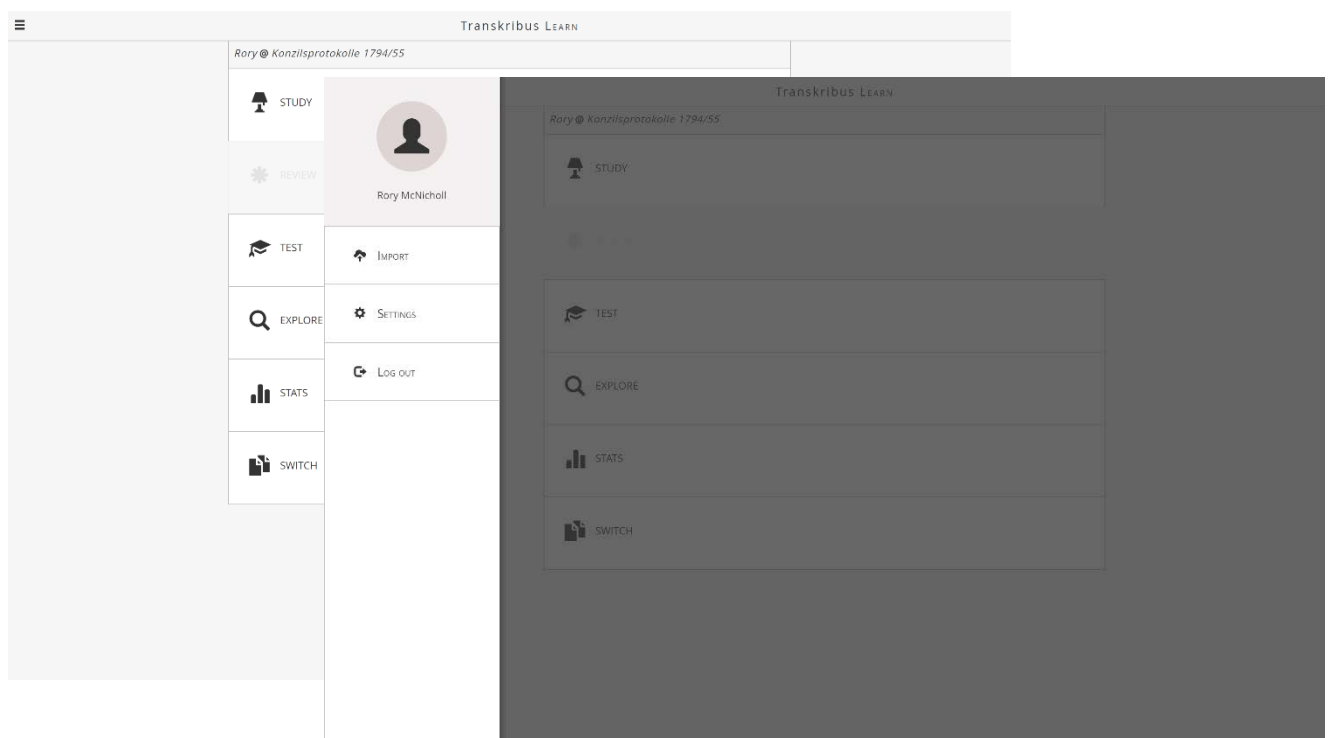


Figure 3 User “home” menu options and side bar options

4.2 Study

The “Study” option is analogous to the “Testing” described in section 2.3. Some changes have been made to this interface after user feedback collected and collated by UCL.

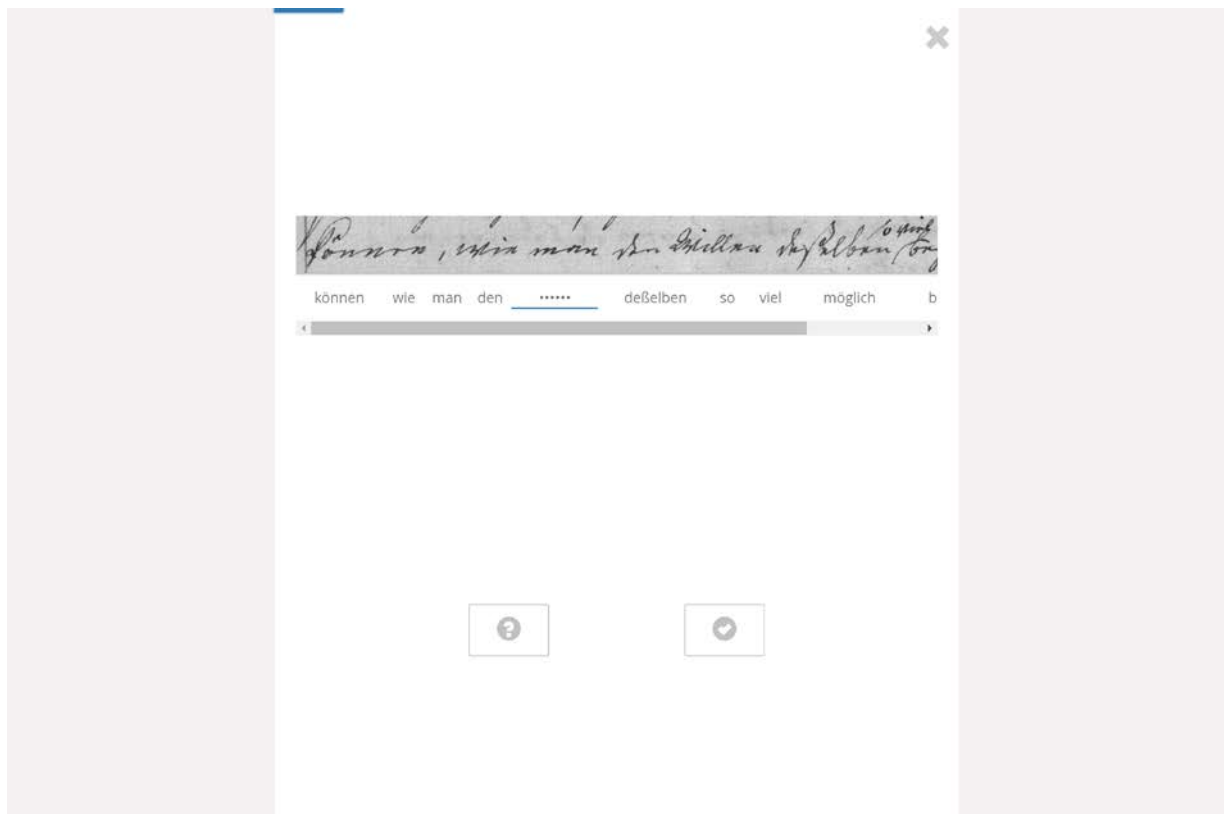


Figure 4 Example of study screen

The word with which the user is being challenged is presented as a series of dots which will tell the user the number of letters in the word. They are invited to directly edit the challenge word in-line as opposed to in a special section below the image and text as previously. The “Check” and “Cheat” choices are displayed as a question mark icon and a tick icon. The question mark will reveal the challenge word while the tick icon will submit the attempted transcription and move on to the next challenge word - the same “submit and move on” functionality can also be achieved by pressing “Enter”.



Figure 5 View after the answer is revealed using the “?” icon

4.3 Test

As before the “Test” interface presents similar screen for each challenge, but with no buttons for uncovering the answer. The user submits their attempt and progresses by pressing “Enter”

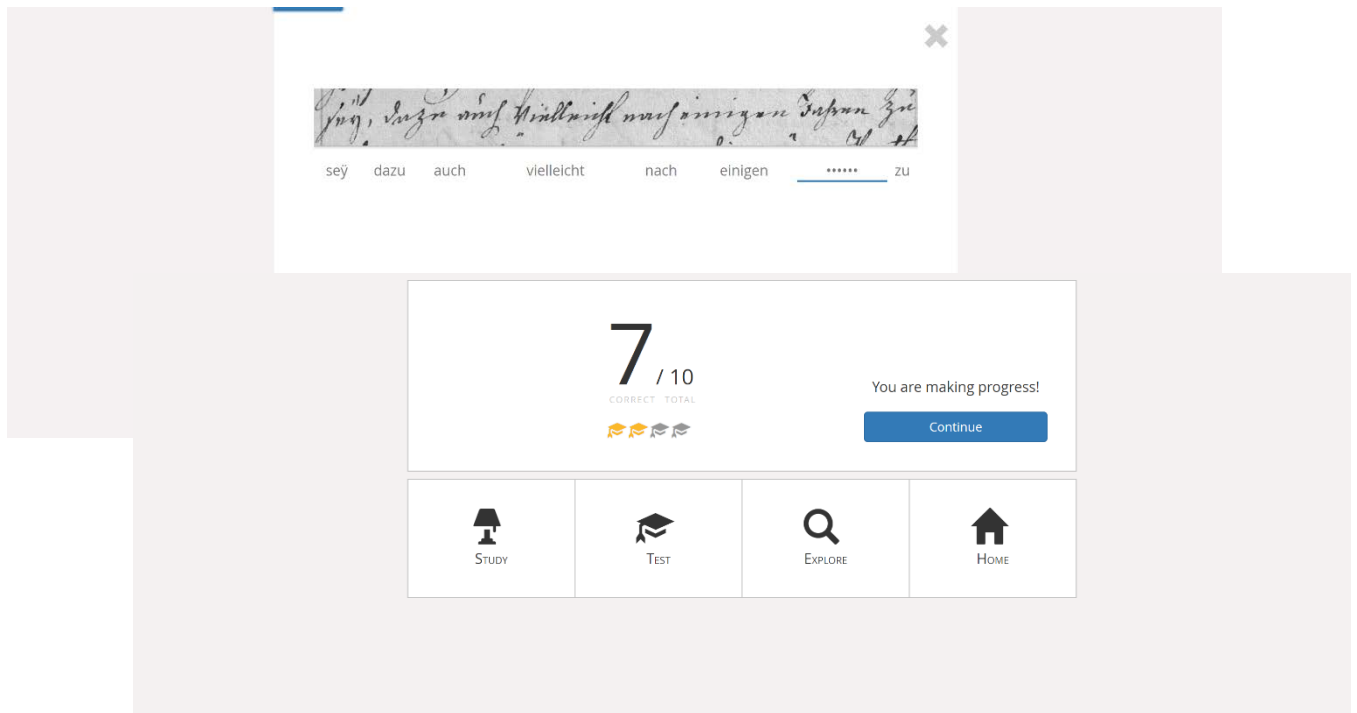


Figure 6 The “Test” presentation of a challenge word, and the results page

The results are presented immediately on completion of 10 challenges with a motivational message and some of the main menu options.

4.4 Explore

An additional approach is provided to help the users learn the peculiarities of the hand from a collection. The Explore pages allow the user to explore examples based on particular characters.



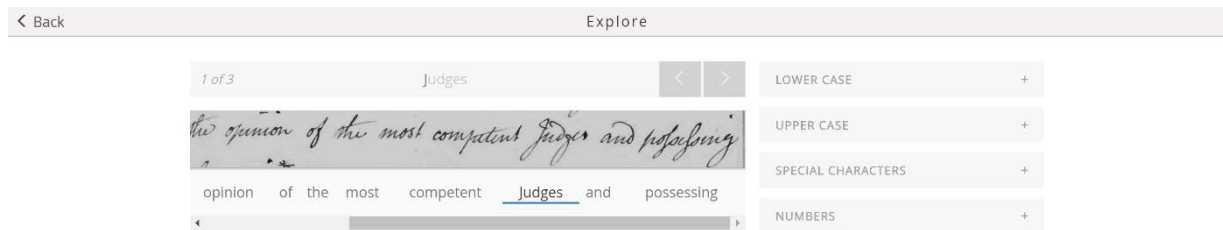


Figure 7 Exploring the examples of “J” in the Bentham collection

A user can select a character from a set of character menus and then they are presented with a number of uncovered examples of the use of that character within the collection they are studying. This allows user to focus on a character that may be particularly problematic for them, or is manifest in various forms in the collection in question.

4.5 Target groups

learn.transkribus has from our point of view four main target groups which can be further divided into learners and suppliers.

Learners

Learners are those users who are actually using the application to learn to read specific scripts. Here we find volunteers and students.

a) Volunteers in crowd-sourcing projects

Many people are willing to contribute to a transcription project but have difficulties to read historical or very individual writing. This is from our point of view one of the main reasons for the high drop-off quote in crowd-sourcing projects that volunteers simply have difficulties to read the script and before they provide incomplete or erroneous input they disappear. With learn.transkribus they will be able to exercise exactly with those documents which they then will transcribe in the project. This target group will be addressed by the managers of such a crowd-sourcing project.

b) Students

Students in history classes are in many cases obliged to be able to identify and read the most common writing styles from the middle ages to modern times. Usually at the undergraduate level students are the first time exercising with historical writing and with learn.transkribus they will be able to do this in a more convenient and easy way than with any other tools available. learn.transkribus is not designed to replace a palaeography course, but to focus on one of the most important aspects: to train the actual reading capability.

Suppliers

Suppliers are those users who provide documents to the learn.transkribus application. Technically spoken this can be any document which resides in the Transkribus platform and has a correct transcription.

a) Project managers

Project managers of crowd-sourcing or transcription projects will be able to provide examples of documents with which volunteers will work. They can prepare such documents in an easy way and include them into the learn.transkribus application.

b) Historians or philologists

Historians or philologists at universities who are teaching palaeography are from our point of view the most important target group. They will not only be able to prepare specific documents and direct their students to the learn.transkribus application but they will also benefit from the work done by their colleagues. The more documents are part of the application, the better the historical coverage and the attractiveness for palaeographic courses.

Due to many contacts and presentations during 2017 we decided that the most important target group for learn.transkribus are historians and philologists and their students.

UIBK has therefore done a comprehensive investigation concerning this target group. All universities in all European countries have been searched for history departments. The head of the department as well as those historians and philologists who are teaching palaeography or similar courses have been identified and their coordinates (website, name, address, email, etc.) were recorded in an excel file. In this way more than 900 persons are now available for a direct mailing campaign.

4.6 Outlook to 2018

Task 5.2. E-Learning Application (M1-M24) is now closed. Further work will be covered by Task 2.1. General dissemination activities as well as Task 4.1. READ Platform maintenance.

Currently UIBK is preparing a first set of documents which are approved and also come with sufficient metadata so that learners can easily select interesting documents. Also everything has been prepared for a postal mailing campaign (print of addresses, names, etc..). We assume that our target group will acknowledge postal mail more than other channels – which will of course also be used in addition to direct mailing. We are convinced that learn.transkribus will receive high attention and interest and of course also contribute in an excellent way to the overall establishment of the Transkribus platform as one of the main address for reliable transcription services.