

## SHORT TERM SCIENTIFIC MISSION (STSM) SCIENTIFIC REPORT

This report is submitted for approval by the STSM applicant to the STSM coordinator

**Action number: CA16105 enetCollect**

**STSM title: A Crowdsourcing approach to language assessment**

**STSM start and end date: 14/01/2019 to 18/01/2019**

**Grantee name: Alexander König**

### PURPOSE OF THE STSM:

The main purpose of the STSM was the setup of a project aimed at the collection of crowdsourced proficiency ratings of learner writing. Before the start of the STSM various possible software solutions had been investigated by the partners at UCLouvain and Eurac Research. The STSM itself was designed to decide which of those options would best serve the aims of the project by taking a closer look at the three most promising candidates for this:

- 1) Pybossa (<https://pybossa.com/>), a generic crowdsourcing application that is already being used by some other projects within the enetCollect network
- 2) D-PAC (<https://www.d-pac.be/>), a software platform directly made for assessing competences and
- 3) ComPAIR (<https://ubc.github.io/compair/>), a peer review application.

It was expected that it might be necessary to install all three applications on a UCLouvain server to see how easy it was to set up and to adapt them for the purposes of the project. The aim was that by the end of the STSM it was decided which software will work best and have a first alpha version of the project up and running in order to move into the testing phase.

### DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

The STSM started on Monday by a number of short presentations to better understand the exact needs of the project and the capabilities of the three possible software solutions that should be investigated. During this it already became clear that D-PAC would not work for this specific project. The software looks like it is not fully production-ready yet (see the README on D-PAC's github page (<https://github.com/d-pac/d-pac.cms>)) and when asked, the developers confirmed that the software would not be able to handle the amount of comparisons needed for this project.

Monday afternoon and Tuesday was spent configuring the server at UCLouvain and installing both ComPAIR and Pybossa on it. Once installed it is much easier to assess the actual functionality provided by a vanilla instance of the software and to judge how much additional work will be needed to adapt it for the specific project at hand.

By the end of Tuesday it became clear that Pybossa, because of its generic nature would require a lot more extra work to adapt it to the project. The idea is to have users simply choose between two texts presented to them and then generate a hierarchy of acceptability of the texts in the backend using Adaptive Comparative Judgement. While ComPAIR which is specifically designed for this kind of task brings this functionality out of the box, it would have to be specially implemented in Pybossa. Therefore it was decided to use ComPAIR for the project.

The biggest problem with using ComPAIR for the project was that it doesn't provide a mechanism for users to self-register, but this is essential for a crowdsourcing project. After some investigation it was found that ComPAIR can integrate with more general learning platforms like Moodle and it was decided to install an instance of Moodle next to ComPAIR. The users can then use Moodle to self-register and are afterwards pointed to ComPAIR where they can use the same user account.

The rest of the STSM was spent installing Moodle in a Docker container on the UCLouvain server and coupling its user management with the one of ComPAIR. Finally a couple of example texts were uploaded into ComPAIR so that the whole setup could be tested.

#### **DESCRIPTION OF THE MAIN RESULTS OBTAINED**

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At the end of the week there were dockerized instances of both ComPAIR and Moodle running on the UCLouvain server and both were set up to interact with each other. Both were configured to the needs of the project and a first couple of example texts were uploaded into ComPAIR so that the whole setup could be tested. At the moment this setup is as follows: users are first sent to Moodle where they can create an account and add some additional information about themselves (e.g. language proficiency, education background, etc.). They then have to enroll themselves into a course. The project will cover the three languages English, Dutch and French, which are implemented as separate courses in both ComPAIR and Moodle. After choosing the course in Moodle, the user is sent to the respective course in ComPAIR. Unfortunately the account in ComPAIR is not copied over from Moodle automatically which means the user will have to register there again before they can start with the actual work.

ComPAIR is designed for a slightly different setup than the one needed for this project. For this reason, there is no way to bulk upload texts for comparison into the platform. But it was discovered that texts could be directly ingested into the database of the program without the detour over the Graphical User Interface which will allow the project managers to easily add all texts to their ComPAIR installation.

Furthermore, a dedicated group in github was set up (<https://github.com/cecl-ucl/>) where the source code of both ComPAIR and Moodle was forked and adaptations to the software that will be made can safely be stored.

#### **FUTURE COLLABORATIONS (if applicable)**

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As there are still some minor things that should be changed in the setup for it to be fit for the project as it is envisioned, it was decided to keep collaborating over distance to solve these last few remaining issues.

Once the project starts, the team at UCLouvain will keep the team at Eurac Research updated on the progress and how well this solution is performing. At Eurac Research it is currently under investigation whether a similar project might be planned there as well which could then benefit from the experiences made in this STSM and the project run at UCLouvain.

It is also planned to collaborate on a paper on the project (setup) at some point in the future, but no concrete plans have been made for that until this moment.