

FoundCAT Presentation

Tools:

Video clips, audio recordings, whiteboard drawings and animations.

Introduction:

This presentation will detail the development of open source software for teaching foreign languages. It starts with the state of affairs before FoundCAT was developed and ends with a call for further development, based on discoveries we made along the route.

The Past

I have been charged with teaching students Technical English at a German university for over more than ten years now¹. I quickly found out that students tend **not to be motivated** by traditional language teaching methods. This would involve choosing an **out of date** technical English book, photocopying it (illegally) and getting them to go through the exercises.

It was **boring** and **frustrating** for all involved. What we soon discovered however, was the power of the Internet. We started watching TED talks in class which animated the students as they found them new, relevant and interesting. We agreed to hold our own talks as well (a kind of TEDx for those in the know) and students got **to choose their own topics**. One TED talk in particular stood out: “The self-organizing computer course” by Shimon Schocken made us aware of Massive Open Online Courses (MOOCs) and especially the open source movement. The journey of discovery had begun.

We began with the concept of **peer review**: students help each other to learn by providing feedback about each other’s work. We discovered Moodle, an open source learning management system (LMS) a free peer review tool. Students really liked this compared to the old system of only getting feedback for their homework from a teacher if they were lucky. Suddenly we had scalable learning platform (**anyone could join** the course in theory).

As a language teacher, it was clear to me that regular practicing the four pillars of communication (reading & writing, listening & speaking) with quality feedback is vital to improving language skills. Meeting only once a week was **insufficient time** to learn much at all (let alone to allow all the students to talk), so when we started using Moodle, we found out we could share all sorts of stuff and refer to it at any time.

As a professional translator I already knew that translating is very useful for practicing reading and writing. Moreover, getting students to write and review a foreign language with peer review in highly effective, especially if they are motivated to work on this regularly (**gamification** helps!). That was possible for a time with the help of Duolingo Immersion, which had so many millions of active users. Hence we already saw the concept worked well. It does require a critical mass of users however. What was missing was an open source platform for translations. That became clearer at the latest when Duolingo shut down the Immersion platform without any notice, taking down with it the entirety of all translations. We were also keen on incorporating the other two pillars: listening and speaking. An open source tool could theoretically be ideal for **all four pillars**, because that allows our team to add the software for that.

¹ With myself as project manager, Prof. Ferrein as fellowship member and student assistants Alexander Kern for eight years (SQL and FoundCAT), Sebastian Utzerath and Dominik Schür for one year (FoundCAT)

Our team helped the E-learning team at the university, and especially Winfried Kock, to develop a peer review tool with their LMS platform ILIAS. The E-learning team went on to win a prize for their work in developing this feature. For us however, we wanted a more simple solution, and so we adopted Moodle. We still needed a translation tool and discovered that funds could be made available as part of the digitalization of university education in Germany.

So we decided to form a team to develop our own software. We proposed **FoundCAT** as a name for the project and based it on an open source CAT (Computer-Aided Translation) tool. FoundCAT (Free, open UNiversity CAT) was designed to help students by allowing them to be able to **learn at any time** through translating and correcting each other. They can also upload any text they like as long as it is free to copy. We started with German into English and then added English into German. Features include a **term base** (a glossary on steroids), and a comment feature for **providing feedback**, a **translation memory** for all the already translated sentences and finally, **machine translation** engines (most notable DeepL).

The Present

We were looking to build a solution, which is simple, scalable, fun and effective in getting students to want to learn anytime, any place, anywhere (for example on a bus, or at home). FoundCAT is **unique** in that it is the **only learning platform that can offer crowd sourced translations**, which are freely accessible. Motivated students are able to **gain a great deal by using FoundCAT** in numerous ways. FoundCAT can be used for:

1. Translating sentences of a German text (e.g. FH Aachen press releases) one at a time (this allows for short every-day-activity and points/results for a minimum of work) – **this is motivating** because it's a **team effort** for a good cause (helping the uploader of the translation);
2. **Correcting** each other's mistakes (peer review) – this motivates students because it's nice and fun to help each other and talk about what you're learning/share knowledge;
3. The **category of error** can be specified to help the students learn from their mistakes;
4. Unrestricted commenting on sentences and translations (talking to each other);
5. Adding terms to the term base;
6. Looking terms up in the term base (hover with the mouse over an underlined term);
7. Uploading their own homework texts (in English in this case);
8. Correcting each other's homework;
9. Suitable and motivating to do at least a little bit every day;
10. Students get **notification mails** when someone changes a segment they've translated or commented something;
11. **Points** are awarded for actions which contribute to learning (as part of gamification);
12. Continue learning after the course
13. A **help feature** (via Moodle chat & forum).

We placed FoundCAT on an internal server at the university for privacy reasons during development and then on a public server for anyone to access for free. Students in my Technical English class were invited to register and start translating. They are incentivised by gaining points for interacting such as adding new terms, translating sentences, providing feedback etc.

The Future

We would like to further develop many features and are therefore looking for new funding partners and sponsors to achieve this. FoundCAT shows great potential for future development and widespread adoption. Additional features such as speaking and listening to voice messages, plus the

transcription of such; speaking and listening to voice messages comments/talk to each other or chat, and translating into simple language is a feature we would love to develop.

Email prompt: Hey you haven't been active for a while, please feed the CAT!