Programmable Machine Translation is a paradigm designed to enable structured and evolving interaction with the human translator for efficient and effective machine translation. In this project, we attain expressivity and abstraction through Functional programming and Type Theory. It also uses deterministic paradigm of databases. Our existing system employs Pattern Mining Methods for learning high coverage programs in the Grammatical Framework (http://www.grammaticalframework.org/). Unlike the research on "human-in-the-loop" approaches that predominantly characterizes contemporary machine learning, this work is based on bringing "machine-in-the-loop", where the human translator takes centre stage. Thus, there is a need to scientifically study the place and role of human interaction. Work in the area of Human Computer Interaction is especially relevant.

Problems For students:
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Development of an interactive computer aided translation (CAT) tool that makes use of the programmable machine translation paradigm (described above). Techniques from translation memory (TM), natural language proces, pattern mining, discrete optimization and human computer interaction could be vital in the development of such an interactive translation system that helps human translator translate and edit translated documents in minimum time.

Requirements from students:
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This project requires some basics of Natural language processing and student is expected to build up his knowledge of Machine translation and Machine Learning concepts in computer science. All the work is on the Java platform, preferably Eclipse IDE (OS Ubuntu). Students with good programming abd analytical skills and excellent problem solving ability will be preferred.