

Announcement of MSc Thesis, Project and Essay topics within the project “Game-based Learning for Improving Meta-Cognitive Skills”

*** This announcement is for students who plan to start with their MSc thesis, project or essay within the next 2 years ***

We are looking for highly motivated MSc students who are interested to do their MSc thesis, project or essay as part of a larger project in the area of game-based learning. This larger project aims at designing and building an educational online game that supports learners in improving their meta-cognitive skills while playing. The game will utilize motivational techniques to encourage users to keep playing, will use learning analytics techniques to increase users’ awareness of their skill levels and progress, and will personalize the gaming experience to individual users and their preferences and skills.

As MSc student, you will be part of the research team and work on a part of the project as your MSc thesis, project or essay under the supervision of Dr. Sabine Graf and Dr. Maiga Chang. There are many different parts of the project that your MSc thesis, project or essay can focus on, ranging from:

- researching how games can support and improve particular meta-cognitive skills;
- designing game features to motivate players keep playing, provide them with analytics on their skills, and personalize the playing experience to their needs and preferences;
- planning and/or implementing the overall design/framework of the game;
- implementing game features and game components; and
- evaluating the game through analyzing its effectiveness and finding possibilities for improvements.

If your application is successful, concrete topics will be discussed in more detail depending on your interests and whether you do MSc thesis, project or essay.

Required Qualifications:

- Enrolled in AU’s MSc IS program
- Plan to start your MSc IS thesis, project or essay within the next 2 years
- Interest in game-based learning / serious games, educational technology, meta-cognitive skills, learning analytics, motivation, adaptive and intelligent learning systems, personalization, student/user modelling or related areas
- Interest in conducting applied research in education that benefits real-world learners
- Strong verbal and written communication skills
- Self-motivated with a strong work ethic
- Ability to work independently and as part of a team

Assets and Preferences

(These assets and preferences are highly depending on the part of the project you will be working on. Having some of these assets and preferences will be helpful for certain parts.):

- Experience in doing literature reviews
- Experience in doing research
- Software development skills, especially for web-based programming
- Experience and ability to design and build tools or systems
- Experience in designing user interfaces and data visualization

- Programming experience and skills in HTML-5, JavaScript, PHP, MySQL
- Programming experience and skills in developing client/server application in Java socket programming
- Familiar with JSON and XML
- Familiar with Debian, Oracle Virtual Box

How to apply:

- If you are interested in doing your MSc thesis, project or essay as part of this project, please send the following documents to Dr. Sabine Graf (sabineg@athabascau.ca) and Dr. Maiga Chang (maigac@athabascau.ca):
 - Motivation letter including information about:
 - which part of the project you are interested to work on,
 - previous and current activities related to the part you want to focus on,
 - whether you plan to do MSc thesis, project or essay
 - planned start date of MSc thesis, project, essay
 - CV

Questions:

Please contact Dr. Sabine Graf (sabineg@athabascau.ca) and Dr. Maiga Chang (maigac@athabascau.ca).