

My Budapest Exchange Trip *by Andrew George Yathon*

Introduction

I had not considered going on exchange to Budapest prior to hearing about 'Control and Coordination of Multi Agent Robot Systems' (C&CofMARS) but at some point last summer I had decided that I definitely wanted to go on exchange the term of Spring 2010. After I had looked into the programs being offered I found that C&CofMARS was an amazing opportunity. I applied along with my friend Cameron Mazurek and when we were both accepted we quickly began planning for our journey the next term.

Project and Exchange Details

As part of our exchange preparation we were given a rough outline as to what we would be doing and what we were responsible for and what would be taken care of. Basically we had the choice of travelling to either Budapest, Hungary to study at the Budapest University of Technology and Economics (BME) or travelling to Tirgu Mures, Romania to study at Sapientia Hungarian University of Transylvania (Sapentia). We chose living in Budapest based on the good things we had heard about the city. As far as accommodations and overseas travel we were to take care of organizing that on our own. A visa was not required to live in Budapest for Canadian citizens but a residency permit was required and could be attained sometime after our arrival in Budapest.

I was somewhat sceptical about the work I would be doing in Budapest considering the program was mainly geared towards computer engineering students. However, I found that the project we were given provided me with some challenging and very applicable experience for a mechanical engineer. The main goal was to take the existing hockey playing robot model and modify it so that it could move holonomically. Holonomic robots can translate and rotate simultaneously. The previous robots could only translate in a single direction. Cam and I were in charge of designing the mechanics and building the

first prototype. Throughout this process I gained a lot more experience working with SolidWorks seeing as we had to model all the robot phases and parts. We got to experience the process of designing, modelling, producing, reviewing, reworking, and reproducing a part while making the Omni-wheels for our robot. This process also taught me what it is like to work alongside a technician and how to compromise design details in order that they are more practical for production. The project helped me work on my technical writing skills with the multiple progress reports I had to write each week. I got the experience of working with fellow students, master's students, and of course Dr. Istvan our professor who were all very helpful throughout the program giving points of advice and providing their thoughts on the topic. On the same note I was able to work on my communication skills, mainly learning how to get my points across when there is a level of language barrier that existed.

In the following Figures 1-2 you will see the old hockey robot fully assembled, our new Omni-robot fully assembled, and the omniwheel that we designed and produced for our robot respectively.

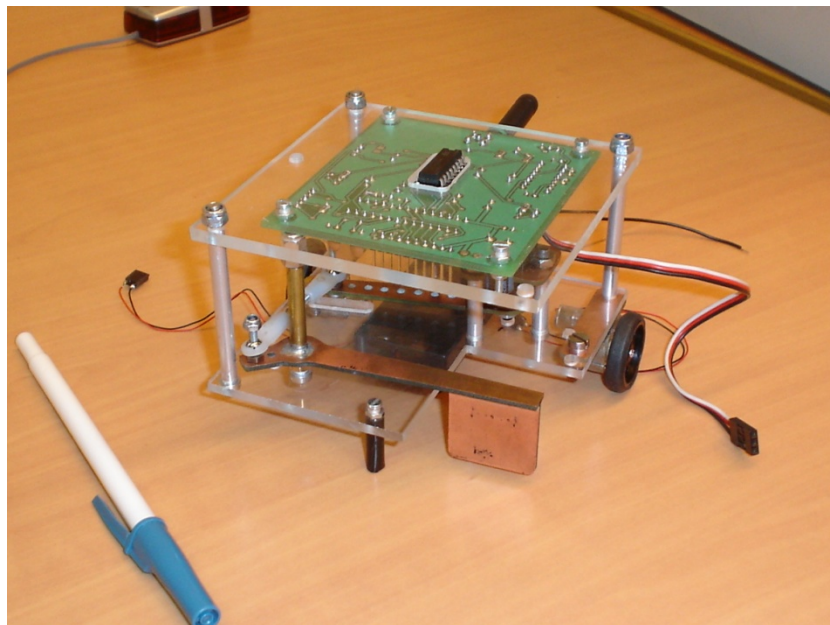


Figure 1. Old Hockey Robot Design

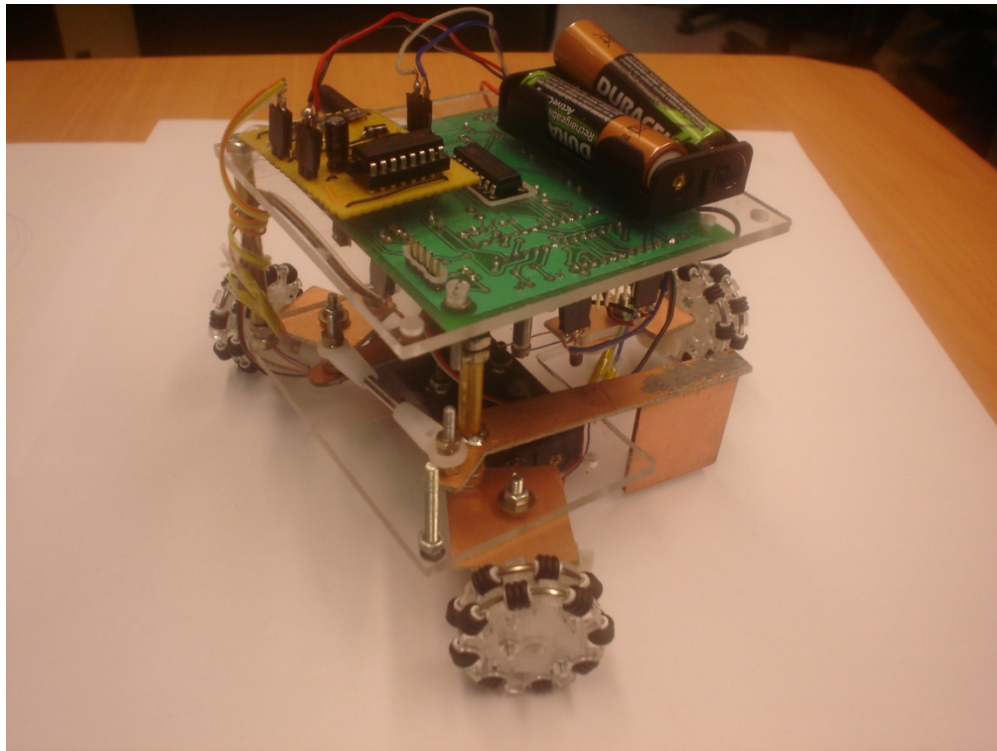


Figure 2. Our Omni-Robot

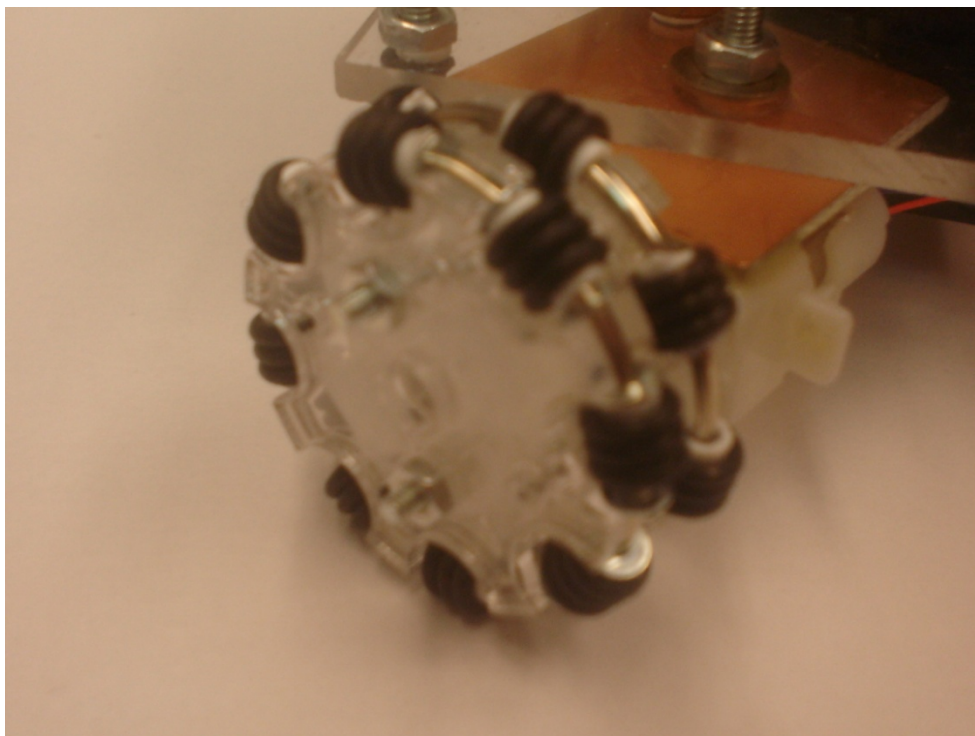


Figure 3. Our Omniwheel

Overall Exchange Experiences

To put it into as few words as possible I would have to say my decision to go on exchange was the best decision I have ever made in my life thus far. I have met so many new people and with the help of the Erasmus program at BME I was able to make new friends from not only Hungary but all over the world. I have experienced and grown through the struggles of living on my own in a country with a different native tongue from mine. I have also tried many new things in terms of Hungarian food and activities both culturally traditional and non-traditional. I have learned a lot about Hungary that up until this exchange was very foreign to me and it has really taught me to keep an open mind about places you have never been to. I have had nothing but great experiences with all the people I have worked with and cannot thank everyone at BME enough for all their support. This program has literally changed my life in a lot of ways and has really got me thinking about what I want to do once I go back home and finish my degree.

My European Travels and Site Seeing

Although I did not go on a Europe trip once my work term was finished I was able to visit quite a few places during my stay in Budapest. I was able to go on trips to Slovakia, Czech Republic, Austria, Romania, Germany, Poland and, Greece to name a few. In Figures 4-15 are pictures from some of these trips.



Figure 4. Marienplatz; München, Germany



Figure 5. BMW Museum; München, Germany



Figure 6. Neuschwanstein Castle; Hohenschwangau, Southwest Bavaria, Germany



Figure 7. National Museum; Praha, Czech Republic



Figure 8. View From Praha Castle; Praha, Czech Republic



Figure 9. Peleş Castle; Near Sinaia, in Prahova County, Romania



Figure 10. Braşov, Romania

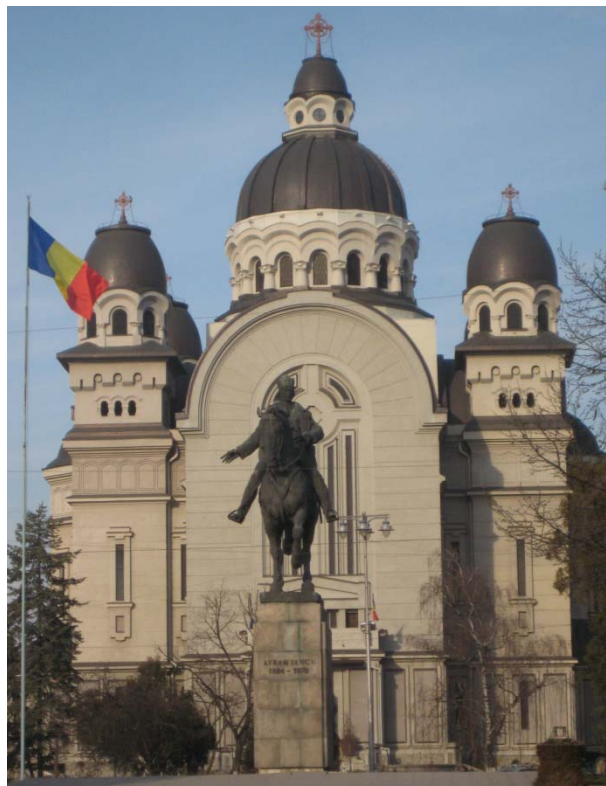


Figure 11. Basilica; Târgu Mureş, Romania



Figure 12. Old Town; Kraków, Poland



Figure 13. Kraków Dragon; Kraków, Poland



Figure 14. Sanctuary of Zues and Athena; Delos Island, Greece



Figure 15. Sunset and The Acropolis; Athens, Greece

Throughout this trip I also sampled a lot of local cuisines and of course drinks as seen in Figures 16-18



Figure 16. Slovakian Bryndzové Halušky

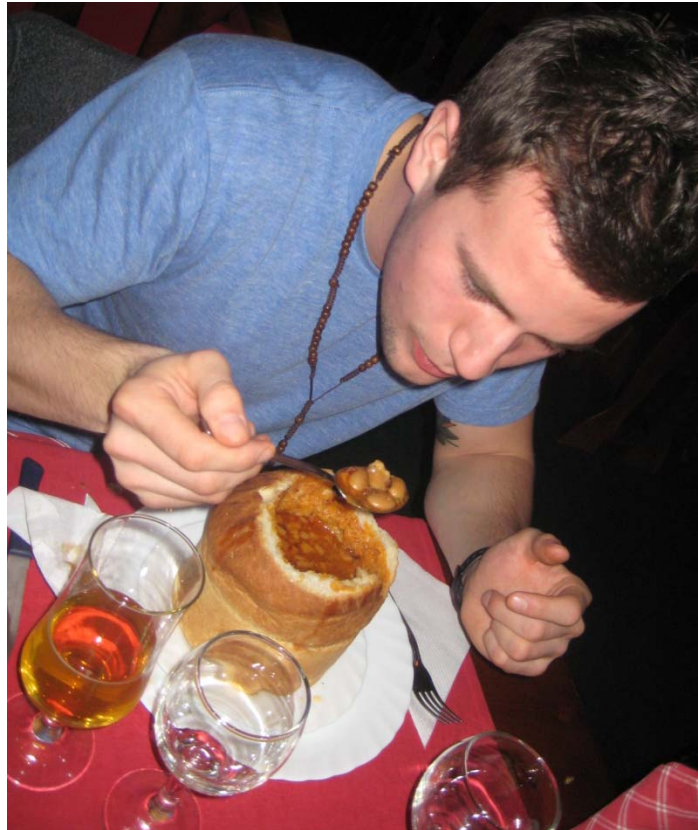


Figure 17. Bean Stew, Romania



Figure 18. BEER, München, Germany

Closing Remarks

This trip was a terrific experience and a really great opportunity for me. Budapest has really become my new home and leaving will not be easy. I have seen many things in Budapest and here are a few of my favourites.



Figure 19. Budapest Old Market



Figure 20. The View From Gellert Hill



Figure 21. Heroes Square At Night



Figure 22. Outside Buda Castle



Figure 23. My Car For The Past Five Months, The Budapest 4 and 6 Tram Line

In closing I would like to thank Istvan Harmati and Nariman Sepheri my advisors throughout this program. This has been an unforgettable time and I cannot thank you enough for giving me this opportunity.



Figure 24. The Canadian Team and Dr. Harmati