Ben Morris | 3A
Software Engineering

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Undergraduate Software Engineering student in 3A term at the University of Waterloo. Experience developing many types of applications for different purposes, including web development, robotics, and video game development.

Previous Employment

- **MedAvail Technologies Inc.** **Mississauga, Canada**
  Co-op Developer *September 2015 - December 2015*

  I primarily worked as a member of the software architecture team, adding to the overall framework of MedAvail's solution in many areas - including database communication retrieval and processing logic, database schema enhancements and NSIS Installer systems. In addition to this I also worked with front and back end development for MedAvail's suite of web applications.

- **MedAvail Technologies Inc.** **Mississauga, Canada**
  Junior Developer *January 2015 - April 2015*

  My first Co-op with the company, and as a developer, I spent working mainly on the "machine team", which dealt mainly with the logic for the MedCenter, the automated pharmacy kiosk that is the main product offered by MedAvail Technologies Inc.
  My most notable contributions were to a code analysis tool used by the developers and a "watchdog" application to monitor the MedCenter's main application. In addition to these projects my work included fixing bugs, reviewing code, and assisting other developers in creating new features.

- **Ontario Ministry of Transportation** **St.Catharines, Canada**
  System Administrator *May 2014 - August 2014*

  As a member of the .NET solutions team at the MTO my responsibilities included the monitoring and deployment of web applications. In addition, my responsibilities included database analysis and optimization.

- **Luribox UF** **Sandviken, Sweden**
  Co-founder and Lead Designer *Fall 2011 - Spring 2012*

  During my second year of high school, me and 7 other classmates founded a "Youth Company" with the goal of designing, producing, and selling earphone holders. By the end of the school year we had sold not only to individual customers, but also sold in bulk to third party retailers.

Notable Projects

- **Table Top Helper** *'Helping RPG groups communicate and organize'*

  An online tool to help players of table top role playing games such as dungeons and dragons organize their game sessions, as well as keep track of important information. Table Top Helper is a single page application, built with Angular.js frontend logic, Bootstrap elements for the views, all on a node.js backend running off of a MongoDB Database. All communication between front and backend is achieved using WebSockets - Namely the Socket.io library, which allows for a responsive experience both when communicating with the server, and with other players.

- **Multiplayer Web Game (in progress)** *'A simple game to test multi-user interaction'*

  Using HTML5 canvas with JavaScript (along with a node.js server), this game allows any number of users to connect to a single world. All actions a player can perform are replicated on the other players machines. Movement is synchronized to ensure the world is displayed accurately to other users. Though this game is still not complete, most of the logic (including everything mentioned here) is complete, and the most stable version can be seen at webgame-bengineering.rhcloud.com

- **Chat application** *'Using WebSockets to their full potential'*

  This project started as a simple PHP application using AJAX polling to check for new messages, but over the course of building the tool I learned many things about Web Development, and decided to remake the application with a more intelligent approach. Since then I've revamped the whole application to run on a node.js server with a MySQL database. Ajax polling has been replaced with WebSocket communication using Socket.io, which ensures that the application is responsive and has a low data overhead

- **Scribbler 2 Robot AI:** *'Solving a real world problem with limited resources'*

  One of the first projects we were tasked with at the University of Waterloo was to program a Scribbler 2 robot to solve a real world problem. My group elected to program the robot to map out a closed space such as a building, and be able to navigate to the exit at any time. The final goal with this project was to have the robot be able to guide people out of a building in case of emergency, in case of low visibility such as in a fire.

Education

- **University of Waterloo** — **Waterloo, Canada**
  Honors Software Engineering — *2013–Present*
- **Goransonsska High School** — **Sandviken Sweden**
  Engineering Program — *2010–2013*

Technical and Personal skills

- **Programming Languages:** Proficient in: C, C++, C#, Java, JavaScript (AngularJS, Node.js), HTML and CSS
  Also basic ability with: PHP, Arduino Programming, VHDL.
- **Technologies and Frameworks** AngularJS, Node.js, Socket.io, Jquery, MongoDB, MySQL, Transact SQL.
- **Tool Skills:** Git, Team Foundation Server, Microsoft Visual Studio, Eclipse IDE, Microsoft office tools.