

Code.Jam() @ McGill Final Report

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1. What we set out to accomplish.

The organizing team this year was formed with the aim of revamping the format of the CodeJam to be centered on an all-encompassing theme. This was to give the event a specific direction especially when it came to designing the problem statement. With that in mind, we set out to work with the McGill Energy Project to help ensure that the focus of all the solutions developed by our participants involved this theme of sustainability and sustainable energy. The team wanted to get participants thinking about energy consumption at McGill which seemed to be a topic that very few participants had had prior information about. To do the team required a problem that would involve actual statistics and data to be analyzed and making McGill the living lab for this purpose seemed like the best option. With the help of representatives from our sponsor companies and the MEP, the problem was developed to satisfy this purpose.

In previous iterations of this event, most of the responsibility of planning and organization were placed solely on the shoulders of the VP External of ECSESS. We wished to change this by forming a team of volunteers with specific tasks to perform, as well as to collaborate with other organizations to further delegate the tasks we were required to complete. The team also strived to acquire more sponsorship and to attempt to get other members of the McGill community interested in this event and to be interested in being a part of it.

As has been the trend with official hackathons in recent years, the team wished to introduce external API libraries to help in the development of solutions to help garner interest in the event and build on previous editions of the event. This also led us to restructure our marketing and sponsorship acquisition approach to include additional benefits to companies interested in sponsoring our events. In attempts to further improve the organization of the event, the team of problem formulators decided on a cloud hosting and development service to implement solutions and to present submissions for judging. This was aimed to provide a unified platform for all submissions to presented to us and to simplify the task of judging. In previous editions of the event, we utilized manual submissions via USB key which meant that judges had to download code, compile it themselves and only then judge submissions. This was time consuming and tedious and we aimed to eliminate this problem.

2. What we accomplished

This year, the CodeJam brought in 117 participants from a multitude of backgrounds and majors, forming 38 teams of 1 to 5 members each. Although this was a slight decrease in participants compared to the numbers in the previous years, there were still many promising teams who were still equally excited and intrigued by the new additions and complete revamping of the event.

With the help of the MEP and with the restructuring of our sponsorship approach, we managed to acquire at least a 50% increase in incoming sponsorship interest which translated to a varied selection of food and snacks as opposed to just the stereotypical pizzas and energy drinks most of these events offer, the ability to provide more prizes and merchandise (a t-shirt was made for our participants) and more breathing room when it came to experimenting with the structure of the event.

The collaboration with the MEP also led us in the direction of formulating a problem that provided the participants with the opportunity to learn about our energy consumption and to actively be thinking about McGill's energy and power demand. The problem challenged students to design dynamic and accurate prediction algorithms and generate real-time forecasts of energy consumption and demand at McGill. This had to be done based on a data set from the past 2 years of the energy consumed on our campus. This algorithm also had to be somewhat artificially intelligent, utilizing basic ideas of machine learning to accurately accomplish what is required of the question. The problem statement will be attached for your reference.

Upon presenting feedback response forms for participants to express what their opinions of the problem and its implications in the real world, many participants responded with positivity claiming that the problem was more intriguing and challenging than previous years and led students to look into what factors are considered when predicting energy and power demand to aid in building their solutions among others.

3. What we learnt

Throughout the process of collaborating with the MEP and interacting with SPF, the team has learnt a lot about these two groups previously unknown to our department and to our participants. We learnt that implementing an all-encompassing theme and that becomes the basis of the problem presented promoted the development of very creative and interesting ideas that could implemented in the real world. With the use of a theme, we could develop a problem that

was not as specific as previous years, allowing students to be fully creative in their design decisions and choices. We hope that in the future, that can be further developed with the purpose of promoting creativity amongst our participants.

4. What challenges / failures we encountered, how they were addressed and recommendations if this project were to be replicated.

While attempting to rework the structure of the event, the team fell a little behind on marketing and branding efforts. We put off the task of designing posters and t-shirts as a low priority task. This could have been improved as we would have been able to get the word out about the event and possibly publicized it more. In the future, the organizer should be coming up with a complete marketing strategy at a reasonable amount of time ahead of the event so that inconsistencies don't come up.

In terms of problems faced by participants, the introduction of the cloud hosting and development service of OpenShift proved a little hard to configure and cost a lot of time for a majority of teams. We believe that we missed this problem because of the problem development period did not account for enough testing time. We have polled our participants to provide up with suggestions as to what they wish to use or are familiar with. In the future, we will suggest that organizers take multiple options and have them tested before deciding on which one to use for deployment. Other issues concerning solution development had to do with the fact that OpenShift did not support a number of frequently used libraries. This also can be solved and avoided by making sure that proper testing of the cloud application be done very much ahead of schedule.

Other challenges include creating a proper tech support team that could be on hand during the duration of the event to address technical questions and doubts about the problem description. The current system that had been set up required that all members of the problem formulation team had access to the email that questions were sent to and this is inefficient as there is no guarantee that these question were answered promptly.

Overall, most students were satisfied at the pace and difficulty of the event, the helpfulness of our team and the amounts and variety of food and prizes that they were offered. We would like to extend our utmost gratitude to the Sustainability Project Fund for coming on board with us at such short notice and for providing our participants with sufficient information on the fund. We hope that future organizers of this event and events alike will work with the SPF in the future.