Dear Kristian,

Over the past week, we made significant progress on the physical housing for Smart Hive. We designed the prototype that takes all of our independent models into account for tracking the weight, population and physical location of bees in the hive and integrated them into a single unit. We designed the enclosure keeping in mind the specific sizes and functionalities of all the sensors, as well as leaving adequate space for cable management to ensure the final prototype is not only functional, but organized and visually appealing. We then transferred our designs into AutoCAD, where we were able to further focus in on the details of the hive’s sensor housing. Once the design was complete, we scheduled an appointment at the Prototype Lab at Humber College and had it cut out of 3mm acrylic.

At this point we are ready to assemble the Smart Hive housing and test it with our sensors. One problem that we have encountered is that we need to find a way to run our cables to the Raspberry Pi that is located beneath the hive. To solve this problem, we plan to drill a hole through the side of the case designed by Roberto last semester and run the cables through to the Raspberry Pi. In order to minimize the area taken up by the cables and to protect them from the environment outside the acrylic casing, we plan to wrap them in heat shrink tubing and feed them into the base.

We are on track with our activities versus the current schedule. With the physical prototype near completion, we will be shifting our focus to writing the code that will forward the data retrieved by the sensors to our database. With reading week next week, we plan to finish most of these tasks during this time. This means we will be ready for the app, web, and database independent demonstration for February 27.

Since we used the laser cutter in the Prototype Lab, we did not incur any costs when cutting our integrated prototype over the past week. At this point, there should be no additional costs incurred as we have all the materials to finish the prototype.

Thank you,

Team Smart Hive

Roberto Loja, Paul Westman, and Yuri Sentsiv