**Progress Report**

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**Project** Name: Bee Tracker  
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**Course**: CENG 317 Hardware Production Technology

With the final components arriving earlier last week. I am on track to demonstrate the functionality of Bee Tracker at the Open House on Saturday. I will be showing the counting functionality of the bee hive where I am able to keep a running count of how many bees are in the hive at any time by tracking bees that have entered and left the hive. This will be done using the IR sensors in the gateway at the front of the mock hive entrance that I cut from acrylic. In my mock hive entrance, there are 5 openings, each 1cm wide and 2cm tall. For the purpose of the open house, I will only be demonstrating the functionality of the counting mechanism for one of these openings to keep things simple. To demonstrate its functionality without bees, I will use a small marble that will be rolled through the entrance to show how the sensors will work. I will be using a GP1A57HRJ00F assembled module optical interrupter on either side of the entrance as to detect when a bee is entering the hive or leaving, depending on which of these sensors detects movement first.

Since a database has not been set up yet to store the information that is collected from the sensor, I will be demonstrating the functionality by either lighting up an LED when the sensor is activated or printing a running count to a screen. In order to print a count to a screen, I will have to coordinate having a monitor at the open house. Since I am not sure if this is feasible, an LED will be my backup plan. Along with the other members of my group, we have cut a mock hive from acrylic and will each be demonstrating a component of the fully functional hive that we plan to integrate in the following semester with our Android application.

Once the database is set up, I will be implementing the counter to keep a running total of bees at various incremental points in time. The counter will keep track of the number of bees in the hive by incrementing when a bee enters and decrementing when a bee leaves, and pushing the value of the counter to the database at a specified interval. However, for the open house I will simply be demonstrating the functionality of the mechanism used to count the bees.