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Beehive Monitoring

# Summary / Background

The beekeeping is one of the most important area of Ecossystems, it allows to increase forestall area by seed polonization and the other economical interest of honey production industry, one of the most important market of natural products.

With this, the beekeepers have the necessity to improve our production using technology and all advantages associated. For this fact, the most worry of beekeepers is related to monitoring the external and internal conditions and know the state of the Beehive.

This project looking for to accomplish the worry of beekeepers by presenting some solutions related with the health of beehives, mainly the weight, humidity, temperature and location of the beehive using tech.

# Goals

Develop a common server and infrastructure associated to this project using for that a Linux server. This server integrates services like database and allocate some web Pages, with the objectives of presenting data information about some variables collect of the beehive using some specific sensors and interpreted by a microcontroller using Python and C programming language.

It’s also pretending that the student knows more about Linux databases, networking management, Webpages servers, and presenting a real solution, that could be implemented on real life scenario.

The project includes some partnerships related with the area of electronics, arts and beekeeping, this partner is also other students of institute, beekeepers, teachers and other organizations and stores located in Castelo Branco.

# Planning (summary)

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| **Objective 1:** | Network management study |
| **Objective 2:** | Identification and study the technical features of the hardware used (Networking devices and Modules also used in project) |
| **Objective 3:** | Designing the architecture of the system and its blocks |
| **Objective 4:** | System development, including integration with electronics boards (integration between microprocessor and routers). |
| **Objective 5:** | Study and implementation of the services provide by server |
| **Objective 6:** | Implementation of solutions founded |
| **Objective 7:** | Development of a System Platform to the project that provides information about each variable on different beehives |
| **Objective 8:** | Final System Testing and Validation |
| **Objective 9:** | Writing the Internship Report and other documentations needed |

# Cronograma

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| **Mouth** | **Sep.** | **Oct.** | **Nov.** | **Dec.** | **Jan.** | **Feb** |
| **Objective 1:** |  |  |  |  |  |  |
| **Objective 2:** |  |  |  |  |  |  |
| **Objective 3:** |  |  |  |  |  |  |
| **Objective 4:** |  |  |  |  |  |  |
| **Objective 5:** |  |  |  |  |  |  |
| **Objective 6:** |  |  |  |  |  |  |
| **Objective 7:** |  |  |  |  |  |  |
| **Objective 8:** |  |  |  |  |  |  |
| **Objective 9:** |  |  |  |  |  |  |

# Observations / Others

This internship is done in synchrony with more students of arts and electronics areas, from which it is planned to provide the following information:

* implementation of networking systems
* protocols used in communications between devices;
* data structure to be used in the database and which characterizes;
* other factors that are considered relevant during project execution.

*NOTE: The project meetings will take place at a time to be agreed between the Tutor / Coordinator and the student (s) and must safeguard the one defined in the Teaching Service Distribution 2018/19.*

**Supervisor**:

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