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| Assignment 1 | | Project Summary | |
| Course | | Practical Robotics and Smart Things - 2021 | |
| GitHub Repository | | <https://github.com/mollova/Intelligent-Dustbin> | |
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| Project author | | | |
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| Project name | Intelligent DustBin - IdB |

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| 1. Short project description (Business needs and system features) |
| The *Internet of Things (IoT)* has made our homes and electrical appliances smarter, interconnected and easier to use. The proposed project develops a smart home appliance - *Intelligent DustBin (IdB)* that consists of sensors objects in front of the lid and reach the desired position of the human.  The hardware implementation is based on ESP32-DevKit-LiPo single board computer, equipped with following sensors:   * *HC-SR04 Ultrasonic sensor -* recognizing if there is an object close to the lid; * *HC-SR04 Ultrasonic sensor* - recognizing when the dustbin is full; * *LED – blinking indicating that the dustbin is full.*   IdB actuators include:   * Servo Motor – allowing the lid to open graciously. * Two Motors – used for the IDb’s movement.   The IdB has the following main modes of operation:   * *Sleeping mode* - the default mode when the IdB is inactive; * *Still mode* – the default active mode when the IdB is awaiting a command to open or move; * *Mobile mode* – the mode in which the IdB is travelling to the human, who needs to throw the garbage. After ten seconds from opening, the lid closes.   There is also a mobile application allowing the users to connect with the IdB and control it. |