Team name: **De Biles**

Project title: **Open Your Window**

IoT is bold

As a programmer, I know how important it is sometimes to “touch the grass,” but it is equally important to maintain healthy conditions inside the room.
For example, if your room is 12 m^2, 22 °C, and there is one person in the closed room, the relative humidity (RH) will rise by an average of about 8.8% per hour. Over time, this can cause several problems: increased moisture, health issues, and even corrosion of electronic devices.

So, what solution do we suggest at this point? — **Open your window!**
But when? And for how long? — That is exactly what our project is about. If your RH is too high, a Raspberry Pi 4 with a Sense HAT will track the absolute humidity (AH) inside the room and compare it to the AH outside to make the optimal decision about opening the window.

Here is our plan:

1. Import sensor data from the Sense HAT and other sources.
2. Process and evaluate the data, comparing it with external weather conditions using third-party services — for example, a weather API from Galway.
3. Visualize the data and/or the import process.
4. Export the results to a web page with a visual interface (UI) — this page can be local (http://localhost:port within the same network) or global (example.com), depending on the final setup.
5. LED feedback — use the Sense HAT’s accelerometer to trigger LED animations in response to changes in orientation. These could be visually appealing RGB animations, adding an interactive element to the project.

Our goal is to create a system that not only monitors and maintains healthy indoor humidity levels but also provides a clear, interactive, and engaging way for users to understand their room environment and take timely action, while ensuring the project is extensible for solving real-life problems and that its complete code will be openly available on GitHub at https://github.com/De-Biles .

Team members
Illia Uriupin (https://github.com/DreamyLunatic).
Maksym Potushynskyi (https://github.com/Borov4308).