QUICKSCAN CANVAS Mini-FLUFFY Docking Station Position Recognition System

NAME: Mini-FLUFFY Docking Station Position Recognition System
DATE: May 15, 2026 2:29 PM

DESCRIPTION OF TECHNOLOGY
A smart docking recognition system developed as part of the Mini-FLUFFY project.
It enables automated connection between mobile units and workstations through sensors and a control platform.
The goal is to improve accuracy, reduce human error, and make the process more efficient.
The system also serves as an educational tool to study…

HUMAN VALUES

The technology strengthens users sense of responsibility and awareness about automation.
Students and operators gain confidence in handling real industrial processes and data ethically.
It promotes collaboration, technical competence, and sustainable thinking.
Rather than replacing human roles, it empowers users to make informed decisions supported by technology.

TRANSPARENCY

Yes, the system is designed to be transparent and educational.
All users can access documentation, wiring diagrams, and logic explanations.
The interface clearly shows how data flows and what each component does.
There is no commercial business model; transparency is part of the learning goal.

IMPACT ON SOCIETY

Manual docking and validation between mobile units and stations often cause misalignment, delays, and errors in automated processes. This system solves the problem by enabling automatic recognition and positioning, improving safety and efficiency. It also helps students understand the challenges of human-machine coordination in smart manufacturing environments. The problem is real in both education and industry, where accuracy and reliability are critical.

STAKEHOLDERS

- Engineering students
- Teachers and instructors
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SUSTAINABILITY

Energy efficiency is promoted through modular hardware and controlled power usage.
Devices are activated only when necessary, reducing idle consumption.
Components can be reused in other experiments to extend their lifespan.
Future iterations may include monitoring energy per cycle and automatic standby modes.

HATEFUL AND CRIMINAL ACTORS

The system itself is not designed for misuse, but if adapted, it could be used to track or identify movements without consent.
For example, sensors or data logs could be misapplied to monitor users or restrict access.
Proper data governance and clear user permissions are required to avoid unethical surveillance or discrimination.

DATA

Yes, data limitations are acknowledged.
The system relies on sensor readings and logs that may contain noise or incomplete information.
To reduce error, calibration and validation steps are integrated in testing.
Data is interpreted only for operational and educational purposes, not for personal evaluation.
Users are encouraged to question data accuracy and understand its context.

FUTURE

The concept could evolve into a fully autonomous smart factory demonstrator.
It may integrate AI for predictive maintenance and adaptive scheduling.
In education, it can inspire sustainable design thinking and digital manufacturing skills.
If scaled, similar systems could connect universities and industry through remote labs.

PRIVACY

The system does not store or process personal data.
It only handles technical identifiers such as docking status, station ID, and timestamps.
All data is operational and anonymized, used exclusively for testing, monitoring, or educational purposes.
If user access is ever added, it should follow data-protection regulations and apply minimal data collection principles.

INCLUSIVITY

The technology itself does not intentionally include bias, but the setup could reflect human or environmental assumptions.
For example, testing conditions might favor certain hardware layouts or lighting environments.
By documenting calibration steps and involving diverse users, potential bias is minimized.
Training sessions also help users detect and correct unintentional bias in operation.

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HUMAN VALUES

How is the identity of the (intended) users affected by the technology?

To help you answer this question think about sub questions like:

- If two friends use your product, how could it enhance or detract from their relationship?
- Does your product create new ways for people to interact?…

TRANSPARENCY

Is it explained to the users/stakeholders how the technology works and how the business model works?

- Is it easy for users to find out how the technology works?
- Can a user understand or find out why your technology behaves in a certain way?
- Are the goals explained?
- Is the idea of the technology explained?
- Is the technology company transparent about the way their…

IMPACT ON SOCIETY

What is exactly the problem? Is it really a problem? Are you sure?

Can you exactly define what the challenge is? What problem (what 'pain') does this technology want to solve? Can you make a clear definition of the problem? What 'pain' does this technology want to ease? Whose pain? Is it really a problem? For who? Will solving the problem make the world better? Are you sure? The problem definition will help you to determine…

STAKEHOLDERS

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by…

When thinking about the stakeholders, the most obvious one are of course the intended users, so start there. Next, list the stakeholders that are directly affected. Listing the users and directly affected stakeholders also gives an impression of the intended context of the technology.
…

SUSTAINABILITY

In what way is the direct and indirect energy use of this technology taken into account?

One of the most prominent impacts on sustainability is energy efficiency. Consider what service you want this technology to provide and how this could be achieved with a minimal use of energy. Are improvements possible?

HATEFUL AND CRIMINAL ACTORS

In which way can the technology be used to break the law or avoid the consequences of breaking the law?

Can you imagine ways that the technology can or will be used to break the law? Think about invading someone's privacy. Spying. Hurting people. Harassment. Steal things. Fraud/ identity theft and so on. Or will people use the technology to avoid facing the consequences of breaking the law (using trackers to evade speed radars or using bitcoins to launder…

DATA

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into…

There are fundamental issues with data. For example:

- Data is always subjective;
- Data collections are never complete;
- Correlation and causation are tricky concepts;
- Data collections are often biased;…

FUTURE

What could possibly happen with this technology in the future?

Discuss this quickly and note your first thoughts here. Think about what happens when 100 million people use your product. How could communities, habits and norms change?

PRIVACY

Does the technology register personal data? If yes, what personal data?

If this technology registers personal data you have to be aware of privacy legislation and the concept of privacy. Think hard about this question. Remember: personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to assemble personal data. If the technology collects special personal data (like…

INCLUSIVITY

Does this technology have a built-in bias?

Do a brainstorm. Can you find a built-in bias in this technology? Maybe because of the way the data was collected, either by personal bias, historical bias, political bias or a lack of diversity in the people responsible for the design of the technology? How do you know this is not the case? Be critical. Be aware of your own biases.…

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