

Appointments Manager

The technology is going to be used by company secretaries in order to help with appointment management. The secretary can manage the appointments. When the guests come to the company their cars' license plate is going to be scanned at the entrance. After this scan the manager who holds the meeting is going to receive a notification that the guest is here.

The system will also use sensors in order to scan the car placed. This way future guests will know if the parking lot is full and will be redirected to a bigger one.

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Level of education: Bachelor

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Impact on society

What impact is expected from your technology?

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

Sean is a secretary at the company Sioux Technologies and he manages the managers' appointments. When a guest comes for an appointment Sean notifies the manager that their guest is here. This creates a delay between the time the guest came and the managers arrives to greet them.

This system also senses when a guest is occupying a parking spot so future guests will be notified if the parking lot is full and to be redirected to another one.

Are you sure that this technology is solving the RIGHT problem?

We believe based on the description and implementation that it will solve the right problem.

How is this technology going to solve the problem?

The secretary doesn't have to notify the manager when their guest arrives at the front door. This will be done automatically through an automated email to the manager. This reduces the workload for the secretary and the guest doesn't have to wait (long) since the manager will already be at the front door.

What negative effects do you expect from this technology?

If the guest forgets their phone, the whole system falls apart. The secretary has to notify the manager manually in that scenario.

In what way is this technology contributing to a world you want to live in?

It reduces workload and unnecessary waiting.

Now that you have thought hard about the impact of this technology on society (by filling out the questions above), what improvements would you like to make to the technology? List them below.

An alternative for the visitor's sms notification is an machine at the entrance of the parking lot that tells if there is space available on the parking lot or not when the camera scans their license plate. It solves the potential problem if the visitor forgot their phone.

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Hateful and criminal actors

What can bad actors do with your technology?

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

One risk can be that the system is storing personal information, the guests' license plate.

Can fakers, thieves or scammers abuse the technology?

Yes, since we are working with cameras and user's personal information.

Can the technology be used against certain (ethnic) groups or (social) classes?

No

In which way can bad actors use this technology to pit certain groups against each other? These groups can be, but are not constrained to, ethnic, social, political or religious groups.

There is no way

How could bad actors use this technology to subvert or attack the truth?

If someone breaks into the system they would have access to one of the main cameras. However as the system analyzes the writing scanned by the camera and only checks if the plate number exists in the system there isn't really a way of facilitating fake news and such

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.

There are no risks of bad actors

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Privacy

Are you considering the privacy & personal data of the users of your technology?

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

Yes, it stores the guests' license plates

Do you think the technology invades the privacy of the stakeholders? If yes, in what way?

Yes, the license plate is linked to a car and the car is linked to the owner with their personal information

Is the technology is compliant with prevailing privacy and data protection law? Can you indicate why?

The only violation would be that we store the guest's license plate which can be traced down to the owner.

Does the technology mitigate privacy and data protection risks/concerns (privacy by design)? Please indicate how.

Yes, we only save the bare minimum of data to protect the user's privacy

In which way can you imagine a future impact of the collection of personal data?

None since the minimum personal data that we store does not affect their reputation and any long-term affects.

Now that you have thought hard about privacy and data protection, what improvements would you like to make? List them below.

One improvement i would like to make is to hash all personal data to prevent any malicious use of their data that is stored.

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Human values

How does the technology affect your human values?

This category is not applicable for this technology.

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Stakeholders

Have you considered all stakeholders?

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by answering these questions.

Name of the stakeholder
manager

How is this stakeholder affected?

They will receive an email that their visitor will arrive at the main entrance when their license plate is scanned by the camera at the parking lot. the email will also include an estimation on how long it takes for the visitor to arrive based on the parking lot they are parking.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
secretary

How is this stakeholder affected?

They can create, edit and delete appointments at the request of the manager. Notifying the manager is not required for them since this will be done through an email

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
visitor

How is this stakeholder affected?

They receive an sms notification when they arrive at the parking lot. the sms notification will tell them if there is space available to park and redirects them to another parking lot if the current one is full.

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Did you consult the stakeholder?

Yes

Are you going to take this stakeholder into account?

Yes

Did you consider all stakeholders, even the ones that might not be a user or target group, but still might be of interest?

Name of the stakeholder

IT department

How is this stakeholder affected?

They'll solve potential bugs in the future.

Did you consult the stakeholder?

No

Are you going to take this stakeholder into account?

No

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.

An alternative for the visitor's sms notification is an machine at the entrance of the parking lot that tells if there is space available on the parking lot or not when the camera scans their license plate. It solves the potential problem if the visitor forgot their phone.

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Data

Is data in your technology properly used?

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?

Mistakes can happen while collecting data. The secretary may mishear or make an error while collecting the guests' data. Furthermore the sensors and camera collect some wrong information. The camera has a success rate of about 93%.

How does the technology organize continuous improvement when it comes to the use of data?

Previous measurements don't influence future data.

How will the technology keep the insights that it identifies with data sustainable over time?

Not applicable.

In what way do you consider the fact that data is collected from the users?

There is no business model.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.

In terms of data i think an improvement would be to store the bare minimum necessary to ensure privacy and security for the user.

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Inclusivity

Is your technology fair for everyone?

Will everyone have access to the technology?

For now everyone visiting the company can choose if they'd like to make use of the technology or not. In the future with wide spread usage, everyone should be able to use this technology when visiting somewhere.

Does this technology have a built-in bias?

There is no built in bias.

Perhaps it's only usable by car owners?

Does this technology make automatic decisions and how do you account for them?

Not applicable.

Is everyone benefitting from the technology or only a small group?

Do you see this as a problem? Why/why not?

For now only a small group (people who visit the company) can make use of the technology. This shouldn't be a problem, as the technology could easily be expanded for larger groups of people.

Does the team that creates the technology represent the diversity of our society?

Yes, our group consists of a diverse group with different nationalities and cultural backgrounds.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.

- make buttons and font larger for people with poor eyesight
- sound/voice notifications for people that are blind
- minimum pages for people that have physical limitations with their hands

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Transparency

Are you transparent about how your technology works?

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

Yes, we are very clear about that. We have explained in detail how the application and camera works.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?

Our technology does not implement any algorithmic decisions therefore this question does not apply.

Is it possible to file a complaint or ask questions/get answers about this technology?

Our technology will be used in a very specific and small use case, therefore all files will be used internally and the client will appoint their own administrator which can then answer questions.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?

Yes, the possible shortcomings of our technology have been discussed with the stakeholders.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.

The technology could be more transparent about the use of the customer data and what happens to it, as well as notifying the user for how long their data will be saved. And giving the customer the option to delete their data whenever they feel the need to do so.

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Sustainability

Is your technology environmentally sustainable?

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

Our technology will have to be accessible during the working hours of the client. To improve the energy drain the camera system as well as the parking sensors, a 'sleep mode' or an energy saver mode could be implemented.

Do you think alternative materials could have been considered in the technology?

In this use case the choice of materials does not make a significant difference.

Do you think the lifespan of the technology is realistic?

We do believe it is realistic, although small fixes are to be expected for both the camera and parking sensor systems.

What is the hidden impact of the technology in the whole chain?

We believe there is no hidden impact behind our technology.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.

git can be used to update the code on the front- and back-end to implement future updates and potential bugs.

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Future

Did you consider future impact?

What could possibly happen with this technology in the future?

It might not be used outside of its educational purpose since there can be issues with the data collecting of the license plates.

Depending on future legislation for personal data, in our project: phone number, license plate & email, it may be difficult to implement this technology in non educational environments. The laws are continuously changing so long term implementation might not be possible.

Cars are changing aswell, current electric or hybrid cars could already influence sensors reading capabilities, this could worsen depending on future car designs.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.

The technology becomes wide spread and a lot of gas/energy is saved as drivers no longer have to search for parking spots and can efficiently be directed towards a free spot.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.

Further legislation makes it impossible for the system to be implemented as the camare, data & sensors violate privacy laws.

Would you like to live in one of this scenario's? Why? Why not?

Both scenarios have there own advantages and disadvantages. A mix between the two would be nice, as I can easily park my car but my personal data will be safe.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?

Depending on the party's agenda, the technology may be abused to collect personal data: where has someone been to? What is their phone number? etc.

Even though laws don't permit the collection of this data, we've seen companies ignoring these laws, this is likely to happen even more in the future.

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Impact Improvement: Now that you have thought hard about the future impact of the technology, what improvements would you like to make? List them below.

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