This prototype is based on a middle-sized farm that grows mushrooms in polytunnels. There are 10 tunnels on this farm and each tunnel has its own control panel. The farm manager must visit these panels 3 times a day (morning, mid-day, and late evening) to view the details about the tunnel (such as temperature, humidity, and carbon dioxide levels), and manually change them through the panel.

Employees pick, weigh, and pack the mushrooms inside the tunnels. Another group of employees gather the packaged mushroom punnets and put them on a pallet. These pallets are then stored in a large fridge in the storage unit. The farm manager must visit this fridge every morning and evening to make sure there are enough mushrooms to deliver to the customers, and that the mushrooms are still fresh.

There are 2 delivery times every day, one in the morning for shops and restaurants before they open, and one in the evening to shops and restaurants that need their stock topped up. There are 3 drivers that make these deliveries to different locations (up to 3 hours away from the farm). If there is a delay, the driver normally does not give any update, unless they are called or if it’s a severe delay.

My IoT prototype is for an application that will track the details of the mushrooms (from growing, to storage, and delivery) through sensors. The farm manager will be able to view these details anytime and from any location though the app. This will give the manager more control over the farm and will improve the mushroom quality and customer satisfaction.
“This is my mushroom farm”

“I should lower the temperature…”

“Temperature: 20°C”

“That’s better! I’ve another notification about Ed’s delivery…”

“Delivery Delay: 15min”

“I’ll let the customer know he’ll be there a bit late”

“Update Customer”

“Now I’ll check how the mushrooms in the fridge are... Great!”

“Stock Level: Good”
Frank Smith
Mushroom farm manager

“I want to always know how my farm is and if there’s anything that needs to be updated”

About:
- I am the owner and manager of this farm.
- I spend half of my time here on the farm.
- I also spend some time at the customer’s locations and traveling to visit suppliers.

Responsibilities:
- I am responsible for making sure the mushrooms are growing in the correct conditions
- I need to make sure we have enough picked mushrooms to fill our customers’ orders
- I need to keep our customers happy and make sure they get the correct orders on time

Main Goals:
- To grow good quality mushrooms
- Having happy customers that keep ordering from us
- To be able to keep track of everything, even if I’m not on the farm

Needs:
- A way of knowing the condition of the mushrooms
- A way of keeping track of stock levels
- A way to know if we have any problems with the deliveries

Pain Points:
- I don’t like not knowing what’s happening when I’m not on the farm.
- I must check the tunnels information panels 3 times a day; morning, mid-day and late evening. If something happens after I check I don’t know about it.
- I don’t know the stock levels unless I check the tunnels and fridges.
### User Experience Journey

<table>
<thead>
<tr>
<th>Actions</th>
<th>Mindset</th>
<th>Feeling</th>
<th>Touchpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Goes to visit a potential new customer</td>
<td>“Hopefully this meeting goes well and we get a new customer”</td>
<td><img src="image" alt="Positive Smiley" /> <img src="image" alt="Positive Smiley" /> <img src="image" alt="Neutral Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /></td>
<td>Car, Notebook</td>
</tr>
<tr>
<td>• Presents information and price list</td>
<td>“This meeting seems to be going good so far!”</td>
<td><img src="image" alt="Neutral Smiley" /> <img src="image" alt="Neutral Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /></td>
<td>notebooks</td>
</tr>
<tr>
<td>• Gets a call from an existing customer, their order is late</td>
<td>“Oh no, this isn’t good. I didn’t know the order would be late so I wasn’t prepared for that”</td>
<td><img src="image" alt="Neutral Smiley" /> <img src="image" alt="Neutral Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /></td>
<td></td>
</tr>
<tr>
<td>• Finishes the meeting and goes back to the farm</td>
<td>“I’m still worried about that phone call. But I need to check the tunnels now”</td>
<td><img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /></td>
<td></td>
</tr>
<tr>
<td>• Starts to check the tunnels</td>
<td>“I was too busy to check the temperature earlier. Now our customers won’t be happy with the quality”</td>
<td><img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /> <img src="image" alt="Concerned Smiley" /></td>
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Frank, who manages a mushroom farm, needs a way to monitor the condition and stock levels of the mushrooms, so that he can grow good quality produce and keep his customers happy.
My prototype can be found [here](#). I used Marvel to make the mockup images interactive. Clicking anywhere on the screen will highlight any of the interactive spots. I have also created a [video](#) which shows how the prototype works.