

Paper Prototype Testing

Tasks

1. Edit schedule, to disable security system on every Friday – 9AM to 5PM
2. View schedules of different buildings, and make sure that only 2 of them are expecting employees on Saturdays
3. Disable alerts for 1 building

Test Script

1. The project will be explained briefly.
2. Any questions regarding the goal or functionality of the project will be answered.
3. The aim of this test will be explained.
4. At this point, the user will have some expectations from the UI, and is ready to take the test. The user will be clearly instructed to ‘think out loud’, speaking about every single step or thought that crosses mind, while trying to accomplish the task.
5. Task – 1 will assigned, and monitoring will start.
6. As the user indicates wish to press a button, next action will be described either vocally or in pictorial format.
7. The questions of the user will be answered, and noted down for further analysis.
8. If some of the aspects do not match user’s initial expectations and mental model – then the reason behind the same will be asked to the user. Answers will be used to improve the UI.
9. After completion of the task, the user will be asked to give a review on the process, and thoughts about possible ways to improve it.
10. Steps 5 to 9 will be repeated for rest of the tasks as well.

Feedback (Users – Caroline Pugh, Prem Shah, Kishor Gaikwad)

1. Alerts are being disabled too easily, without authentication requirements. This can create issues when an accident results in a potential security breach.
2. Schedule editing is not easy. A general opinion was to build the UI in a way – that one simple event naturally leads to another, kind of like guiding the user. We would have to think quite a bit to design it effectively.
3. Many of the options are hard to find.
4. Operator login information is not very accessible.
5. What happens if multiple operators log in at the same time, and try to change scheduling?
6. The monitoring hours are confusing – should be replaced by working hours.
7. There should be 2 different slots for time setting in scheduling (instead of current single clock)
8. The timings should be put right next working hours schedule setup
9. What's the purpose of entering dates? It is confusing along with days. If the days default to repetitive pattern, then dates should be removed.
10. Exception/one-time setup button should be included.
11. Holiday button/reminder should be there.
12. Morning, afternoon, etc. are confusing – and seem unnecessary. Consider removing the same.
13. Move the currently selected building indication closer to the operator information window.
14. Add an override button (to suppress expected alerts/breaches). This will be useful in case someone forgot something in the plant, and goes back to get it.
15. Include tabular form of display for alerts logging.
16. Description can have scrolling. Add comments in there (for example, Tom went in to get back his forgotten cap).
17. Add a print button for alert logging.
18. Maybe compile data by month/year etc. Will be useful in the long run.
19. Add floors/sections in the building as well. Very useful for alert logging, monitoring, and analysis.
20. Having feature of monitoring number of employees per building will be useful for disciplinary purposes.
21. For emergency setting purposes, the operator might not have time to enter name, ID etc. Make it simpler, somehow grant access by a single event.
22. The actual entrances of the building should have access only via RFID cards. All of these data should be sent to cloud and logged.
23. Syncing on-site changes and global changes. Maybe logging in, with reasons. Might want to give higher priority to on-site operator in case of conflict.

Images of Actual Paper Prototype with Suggested Changes

The screenshot displays the 'Plant Monitoring UI' with a browser address bar showing 'https://macmet.com/operator/login/'. The page has a navigation bar with links: Home, Operators, Plant Schedule, Alerts, Statistics, and Help. The main title is 'Plant Monitoring'.

Operator Window:

- Select Operator:** A dropdown menu showing 'Rushi Macwan (Remote Operator)'. Buttons for 'Add Operator' and 'Delete Operator' are next to it.
- Select Building:** A dropdown menu showing 'Building-1 (Colorado)'. Buttons for 'Add Building' and 'Delete Building' are next to it.
- Operator Name:** 'Rushi Macwan'.
- Operator UID:** 'xxx-xxx-012'.
- Building Name:** 'Building-1 (Colorado)'.
- Buttons: 'Refresh Page', 'Manage Schedule', 'View Alerts', 'View Stats'.

Schedule:

- Edit Schedule:** A section with buttons for 'Edit Schedule', 'Add Schedule', and 'Delete Schedule'.
- Edit Schedule:** A form with 'Monitoring Starts' and 'Monitoring Ends' fields, each with a time picker and a calendar icon. Handwritten notes include 'Confusing. Remove?' and 'Time Start Set Here'.
- Select Day:** A row of buttons for 'Mon', 'Tue', 'Wed', 'Thurs', 'Fri', 'Sat', 'Sun'.
- Select Time:** A row of buttons for 'Morning', 'Afternoon', 'Evening'.
- Exception:** A section with a 'Holiday' button and a 'Reminders/Setting kind of thing' note.
- Exception:** A section with an 'Add Functionality' note.
- Exception:** A section with a 'Remove' note.
- Exception:** A section with a 'Remove' note.

Handwritten Annotations:

- Confusing. Remove?** (near Monitoring Starts/Ends)
- Time Start Set Here** (near Monitoring Starts)
- Time End Set Here** (near Monitoring Ends)
- Holiday** (near Exception)
- Reminders/Setting kind of thing** (near Exception)
- Add Functionality** (near Exception)
- Remove** (near Exception)
- Remove** (near Exception)

[illegible]

Buildings monitored: 12

Delete Operator

Delete Building

Building Name: Building-1 (Colorado)

Operator UID: xxx-xxx-012

View Stats

Print → Button

4-7264 4-7265 4-7266 706 4-7268
 664-7269 7267-7 664-7270 7271-7
 4-7271 706 66 664-7272 7273-7
 664-7274-7 66 7275-7 66 7276-7
 4-7277 664-7278 66 664-7 66 4-7281

44-7254 44-7254 44-7254 702 44-7254
 44-7254-7254-7254 44-7254-7254-7254
 44-7254 702 44-7254-7254 7254-7254
 44-7254-7254-7254 702 7254-7254 44-7254-7254
 44-7254 44-7254-7254 44-7254 44-7254

Alert associated: YES

NOVEMBER 2019						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30