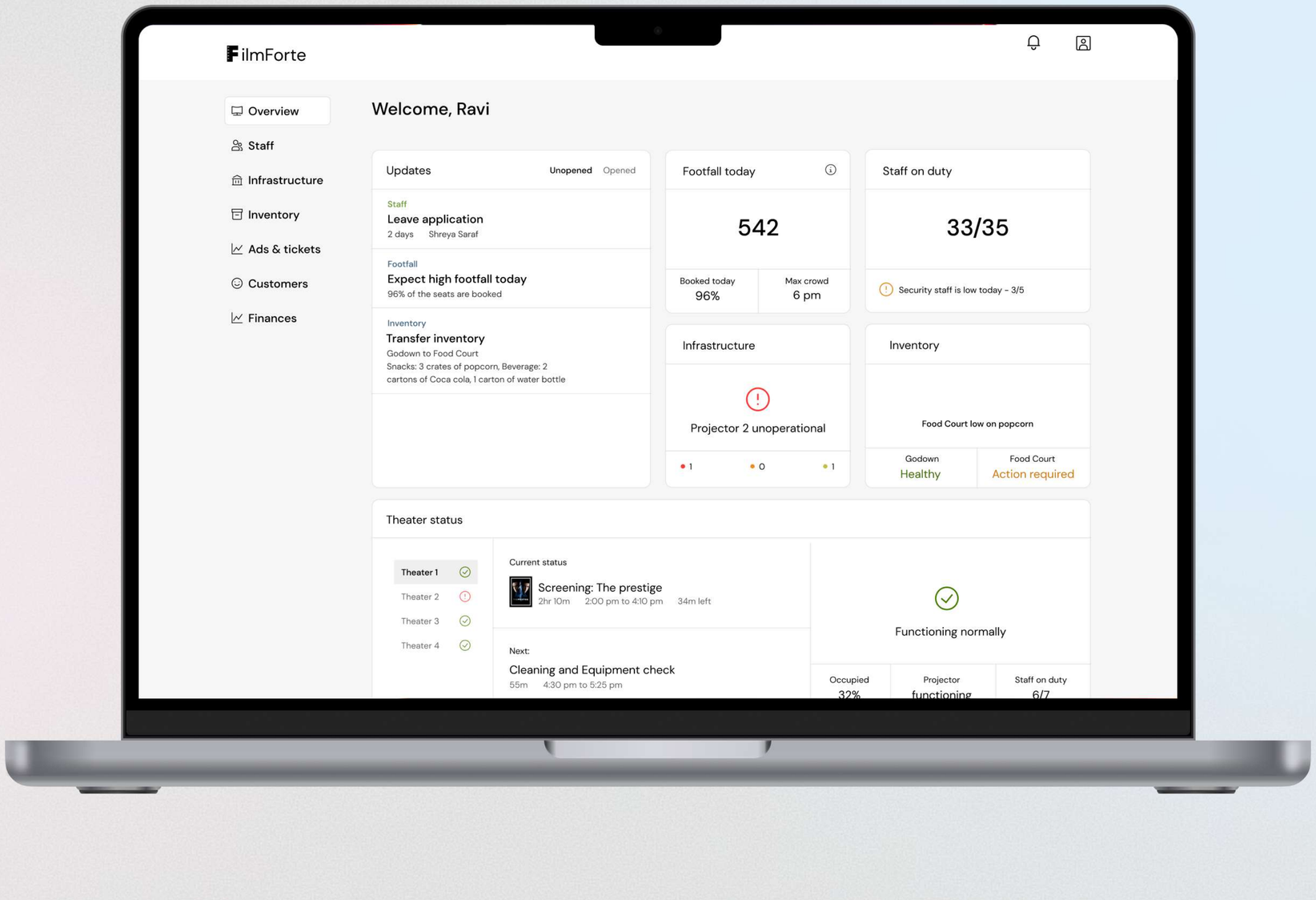
From the inside out



Introducing FIlmForte's internal management tool that lets you manage everything that you could want in your multiplex.

This is a project I did for Nutanix design internship as shortlisting task.

Duration

76 hours

Type

Company task

The process followed

The brief

Ravi is the Operations Manager of FilmForte Multiplex, which is a multi-screen movie theatre in a metro city.

Ravi is responsible for assessing FilmForte Multiplex for factors such as overseeing infrastructure management, coordinating in-house advertisements, managing daily footfall, ensuring smooth operations of movie screenings, and determining pricing strategies based on movie demand and other variables.

Design a dashboard and workflows that help Ravi manage and oversee factors that affect his multiplex operations and profitability. Identify the key goals and the critical use cases for managing such a system and go in-depth into one key use case.

Remember, the end goal is to provide tools and insights to optimize the functioning and revenue of his FilmForte Multiplex efficiently.

I had questions

What is the role of an operations manager?

How does a multiplex function? what are its verticals?

What does a day in life of Ravi looks like?

Understanding the brief

A multiplex operates multiple screens and theatre halls under one roof. The largest of these complexes can have upto 30 screens and house thousands of people, called a megaplex.

In the case of Ravi, the operations manager role includes but is not limited to ensuring on time screening of movies, tracking sales of tickets and refreshments, managing advertisements, strategize for the future, etc.

The operations inside a multiplex

Food and beverages

- Ensuring high quality of food
- ensuring availability of inventory

Souvenirs

- Sell movie souvenirs, in the form of small toys, props, T-shirts, mugs etc.
- multiplex branded souvenirs.

Infrastructure management

- Functioning of equipment (projectors, speakers, etc)
- Cleanliness of theater and washrooms
- Adequate parking is available.

Staff management -

- recruit, train and manage staff
- ensure staff is on time
- create staff schedules
- staff includes ushers, ticketing staff, cleanliness staff, security.

Strategizing

- Plan upcoming movie ticket price for maximum profit
- Manage income sources and expenses.
- plan expansion of operation if required.

Reports and projections

- generating revenue reports
- projecting sales and operations
- expense sheets

Ticketing and screening

- ensuring offline and online tickets don't match
- ensuring movie screening is on time
- ensuring smooth flow of crowd through the process.

Customers

- Customer feedback
- Rating, reviews and complaints
- Customer category

Advertisements

Appropriate placement of movie posters

Props for upcoming movies.

Ensuring advertisements are updated on time.

Get into agreements with movie production houses

Special promotions and events

- Organize special events, promotions photoshoots, etc.

Is that all there is?

No, these are just the subtleties of managing a multiplex, each section can further be divided into deeper sections and activities.

Will a dashboard help with everything?

No, from the get go, I wanted to get into Ravi's boots as much as possible, to create an experience that was enabling for him and not annoying or disabling him. That meant only taking the best use cases that are feasible for the dashboard.

Understanding the user

A day in the life of Ravi

To further understand Ravi's daily activity and pain points, I assumed his role and came up with a day's journey.

7 am

Ravi shows up to the multiplex early in the morning.

He checks in with the staff for any new updates. A water filter stopped working in bathroom 3.

Ravi decides to call a professional later in the day to fix the filter.

8 am

Next he reviews the day, the schedule of movies to be screened, the staff attendance.

He conducts a staff briefing, discussing the schedule for the day.

9 am

He might choose to go on a inspection of the facility if something new has come up.

He also checks the advertisements being displayed.

After this, he checks the inventory for food items. Popcorn is running low in the Food Court.

He orders popcorn and a few other item from the godown to the food court.

10 am

During the day, he engages with customer, listening to their complaints.

Also with staff to ensure smooth functioning of the cinema.

11 am to 2 pm

During lunch he goes over finances of the business, checking sales data.

He also remembers to call the technician to schedule him for fixing the water cooler.

2 pm

Post lunch he reviews a marketing emails for events.

He also sits down to determine the price of the upcoming movie - Wonka.

3 pm

The technician arrives and repairs the water cooler.

9 pm

Before closing for the day, he ensures all the screenings have concluded.The theaters are clean and secured.

And the inventory is available for tomorrow.

Data points! Data points!

I listed down key data points that can be shown to Ravi thought the day against each activity that would make the activity easier. I also identified data points from the Multiplex functions list. thinking about what data point would help that function.

How will we source the data points?

The data points can be sourced by either **automatic kiosks sending their data** , or an **employee entering data in** the central server from where it is pulled onto Ravi's dashboard.

Identifying use cases

Next I grouped these data points to come up with buckets of features for such a dashboard.

Overview

- Today's schedule of screenings
- Today's expected crowd flow throughout the day.
- Staff on duty today
- Any other updates.
- Theater wise breakdown of functioning status.

Infrastructure

- Regular inspection reminders.
- Track issues identified during inspections.
- Track equipments - their purchase date, operation life, if replacement upcoming.

Staff

- Staff attendance.
- Staff list and individual attendance.
- Team wise attendance
- Comparison with previous timeframe.

Inventory

- Show availability of stock, if something needs to be ordered from the godown.
- Show item wise sales trends.

Finances

- Show sales stats and trends - revenue and expenses. per vertical offered
- Item wise sales numbers.
- Revenue comparison to different time

Advertisements

- overlook tie ups with advertisement houses.
- Ticket price suggester.

Customers

- Registered customer count
- Feedback, rating and reviews.

Why these specific data points?

While I would like to conduct interviews or user studies, the time constraint and hard to find target user meant that these were chosen out of assumptions. **These assumptions were based off of Ravi's workflow, his assigned job and daily schedule.**

Assumption - Why Infrastructure?

Infrastructure details are more important for Ravi than finances details. Being the operations manager, his primary goal is to ensure smooth day to day working of the venue, which requires attention to infrastructure details. Which is why I **choose to explore Infrastructure in more detail** than any other use case.

Design concepts

Paper wireframes

I sketched out different ways of representing this data on paper, making different iterations to see the best fit design. My criteria to judge best fit was **easy to understand, clean and intuitive.**

How might we bring Delight?

To give Ravi deep delight, I decided to -

- Give clear solutions to problems he might encounter.
- Help him make smart decision by giving him the right insights.
- Keep the design intuitive and easy to use.

Advertisement slots — Barbie — 12 Oct.

	Morning 10am - 2 pm	Afternoon 2 pm - 6 pm	Evening 6 pm - 10 pm
Lobby	Motorola		
Hallway		Coca cola	
Entry			
Exit			
Washrooms			

or

iterations for improvement

I choose to go with the second one, because assuming advertisements are booked in slots of 4 hours, **multiple companies can book the same slot** and their ad will be played on loop. Thus the second one shows the latest booking and availability of slot can be checked with a different widget.

Recent bookings — Sort by — New booking

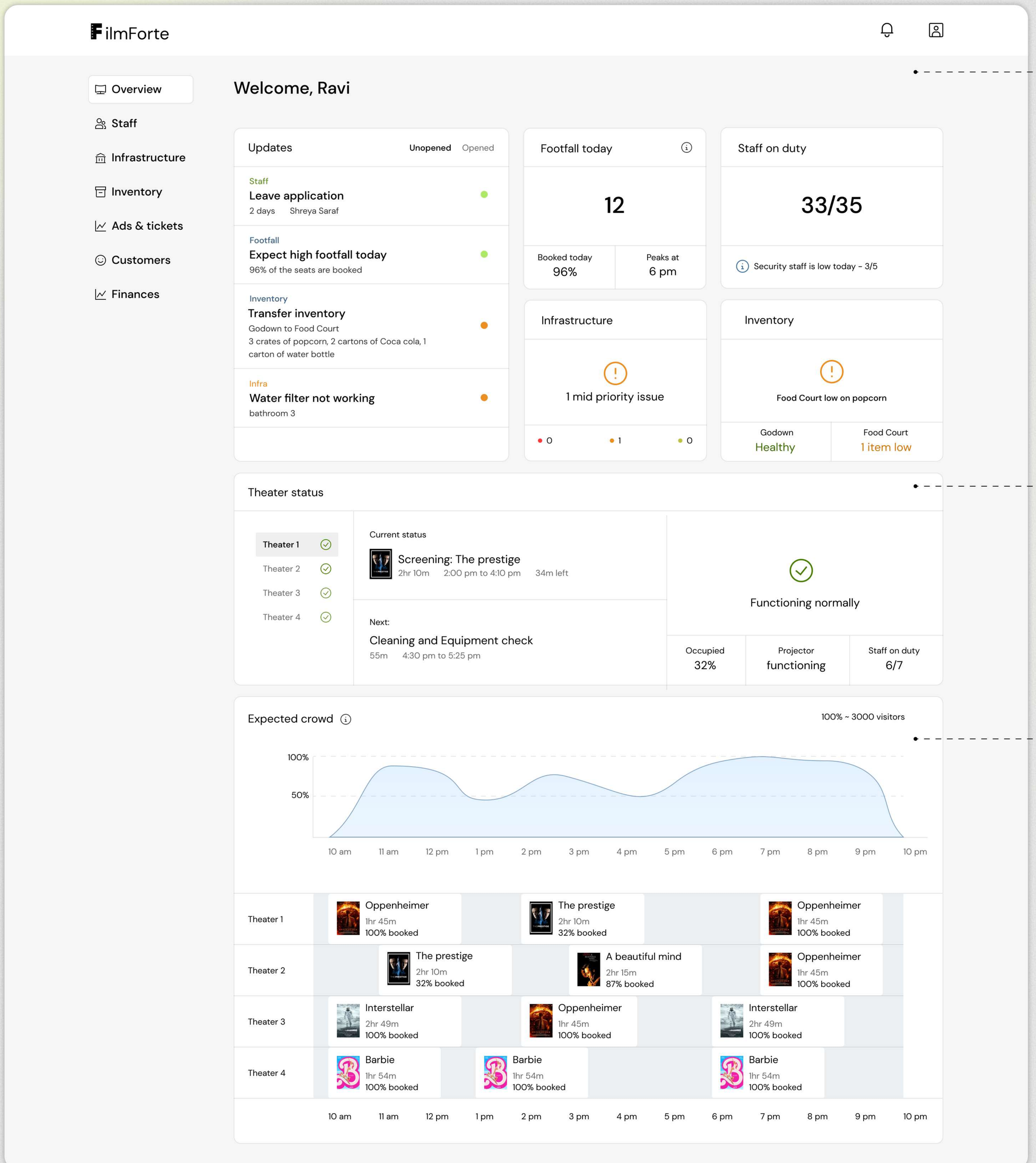
Pepsico	Motorola	Audi	PC Jewelers	Coca cola
Afternoon, evening 21 Sep. 2023 Hallway, Lobby, Exit, Entry	Afternoon, evening 21 Sep. 2023 Bathrooms, Entry	Afternoon, evening 21 Sep. 2023 Hallway, Lobby, Exit, Entry	Afternoon, evening 21 Sep. 2023 Hallway, Lobby, Exit, Entry	Afternoon, evening 21 Sep. 2023 Hallway, Lobby, Exit, Entry

Final designs

Let us go through Ravi's day again

Overview page

7 am
Ravi opens up his dashboard in the morning. He sees the updates from yesterday in the dashboard itself. The updates are color coded in accordance to their priority. A water filter stopped working in bathroom 3. Ravi taps the update to send message to technician immediately.



The overview section is **designed for Ravi to quickly see highlights of the day** and take action if required.

Ravi gets to see **theater status** so he can manage the infrastructure of his theaters, see their functioning, etc.

Next he reviews the day, the **schedule of movies** to be screened, the staff attendance, the **expected crowd.** He will use this data in the staff briefing today.

Inventory page

8 am
Having seen the transfer inventory update, Ravi goes to the inventory page to check and approve the inventory transfer.

FilmForte

Overview
Staff
Infrastructure
Inventory
Ads & tickets
Customers
Finances

Your inventory

Inventory status

Food court low on popcorn

Godown	Food Court
Healthy	1 Item low

Inventory breakdown

Item	Godown sold	Food Court Available
Beverages	4 crates	18 crates
Snacks	4 crates	30 crates
Meals	90	-

Transfer inventory
3 crates of popcorn, 2 cartons of Coca cola, 1 carton of water bottle — View

Ravi sees the transfer inventory option again here. So he clicks it to approve transfer.

Sales — Today

Beverages	1600
Snacks	342
Meals	82

Item	Code	Sales volume	Change	Demand
Coca cola PET bottle	1245	1,040	+12% (234)	High
Water bottle	004	440	+3% (56)	High
Pepsi PET bottle	1292	120	+1% (10)	Low

Transfer inventory

Godown to food court
3 crates of popcorn, 2 cartons of Coca cola, 1 carton of water bottle

Cancel | Approve

A dialog box appears to confirm this inventory transfer.

Staff page

9 am
Next Ravi decides to see staff updates for the day, he can see that security is especially low today. He will bring it up during the staff briefing today. He wants to see the names of the two security guards that are absent today. He scrolls to the staff list and selects security team to see the staff. one of the employee has very low attendance.

FilmForte

Overview
Staff
Infrastructure
Inventory
Ads & tickets
Customers
Finances

Your staff today

On duty

33/35
96%

Yesterday	Month average
32 (90%)	89% ↑3%

Teams

Ticketing	31/31
Security	3/5
Maintenance	12/12
Ushers	8/8
Food court	12/12

Updates

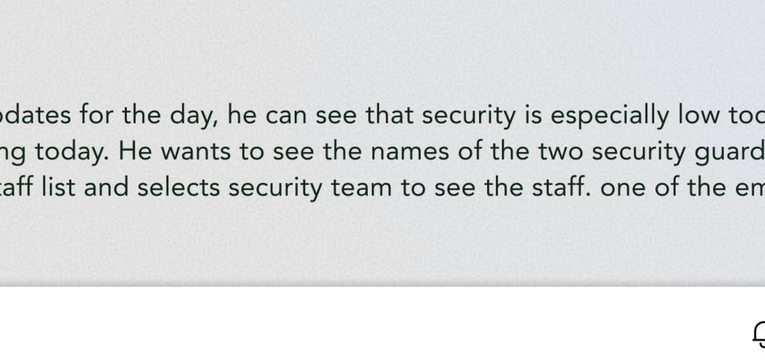
Leave application — New
2 days · Shreya Saraf · Maintenance

Resignation application
Sohil Monpara · Ticketing

Attendance statistics

Ticketing	(31)
Security	(5)
Maintenance	(12)
Ushers	(8)
Food court	(12)

This month 89%
Last month 93%
Total staff 31
Review employee 1



Staff list — Ticketing | Security | Maintenance | Ushers | Food court — Search names, contact, etc

Emp. Name	Joined	Duration	Attendance this months	Leaves	Present today	Contact
Jane doe	Sep. 2021	2 year	66%	5	NO	view
Janice	Sep. 2022	1 year	78%	1	Yes	view
Sankeert Joseph	Sep. 2023	1 month	80%	1	Yes	view
John likert	Sep. 2020	3 year	88%	1	Yes	view
Heisenberg	Sep. 2022	1 year	90%	0	Yes	view
Jesse pink	Sep. 2019	4 year	90%	0	Yes	view

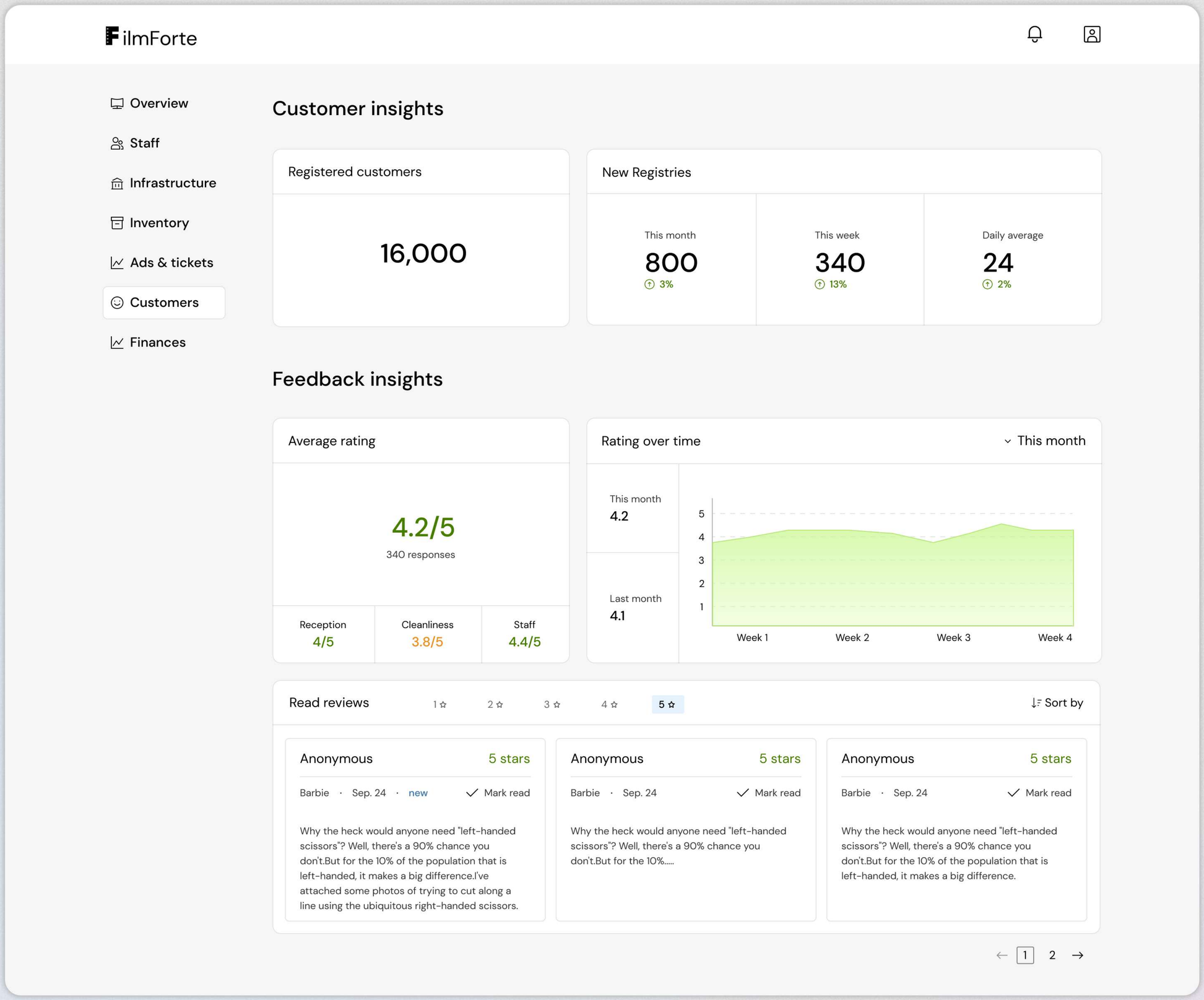
← 1 2 →

One of the staff has unusually low attendance, Ravi decides to call them to inquire.

Next he might choose to go on a inspection of the facility if something new has come up.
he also checks the advertisements being displayed.

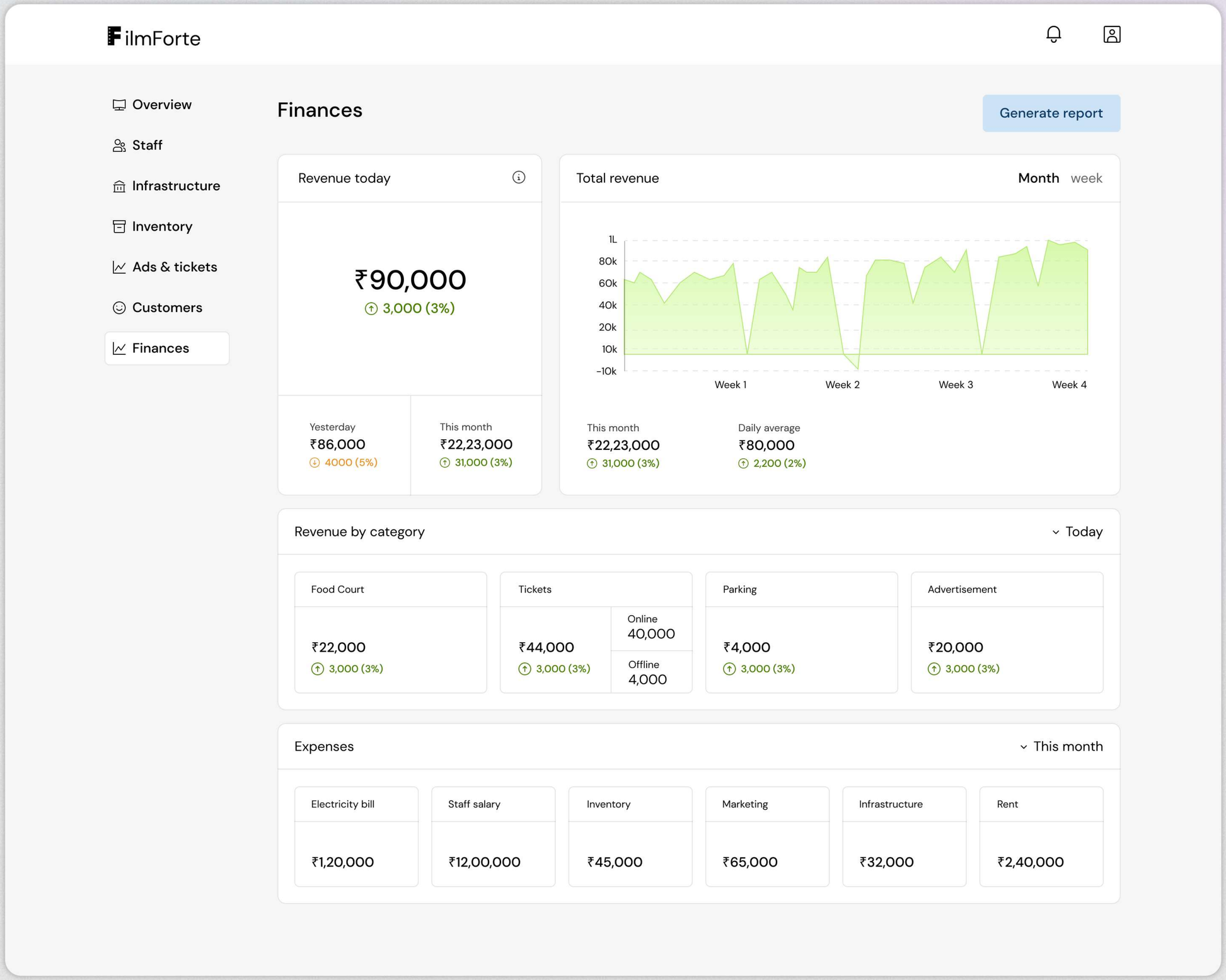
Customers page

10 am
Although Ravi loves talking to customers, due to time constraints he is unable to talk to them today, so he goes to the customer page to see any new reviews or ratings that customers might have given at the feedback form present in the multiplex.



Finances page

11 am to 2 pm
During lunch he goes over finances of the business, checking sales data. He doesn't have to call the technician because the filter is already fixed.



Ads and tickets

2 pm
Post lunch he opens the ads and tickets section to review a marketing message from Flipkart. he also checks and books a slot for icstationzebra ltd. He also sits down to determine the price of the upcoming movie - Wonka. The AI based price suggesting tool takes into consideration the type of movie, release date, etc to give price estimates for the screening week and seats.

FilmForte

- Overview
- Staff
- Infrastructure
- Inventory
- Ads & tickets
- Customers
- Finances

Ads and tickets

Updates — Unopened | Opened

- **PVR Saket** — Request to collaborate
- **Flipkart** — Big billion day coupons for your multiplex
- **icestationzebra** — Slot enquiry for Barbie movie

Advertisement slots — This week

63
Slots booked

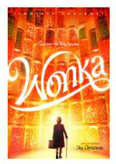
Morning	Afternoon	Evening
29	21	56

Lobby	14
Hallway	8
Entry	23
Exit	12
Washrooms	23

Recent bookings — Sort by — New booking

Pepsico	Motorola	Pepsico	Pepsico	Pepsico
Afternoon, evening	Afternoon, evening	Afternoon, evening	Afternoon, evening	Afternoon, evening
21 Sep. 2023	21 Sep. 2023	21 Sep. 2023	21 Sep. 2023	21 Sep. 2023
Hallway, Lobby, Exit, Entry	Bathrooms, Entry	Hallway, Lobby, Exit, Entry	Hallway, Lobby, Exit, Entry	Hallway, Lobby, Exit, Entry

Upcoming movies — AI based



Wonka

Dunki

Hype: Popular

Genre: Adventure, Comedy

Distributor's cut: ₹250

Release date: Oct. 21 2023

Suggested price — From release: 1st week | 2nd week

Lowest	Classic	Prime	Prime plus
	₹320	₹350	₹470

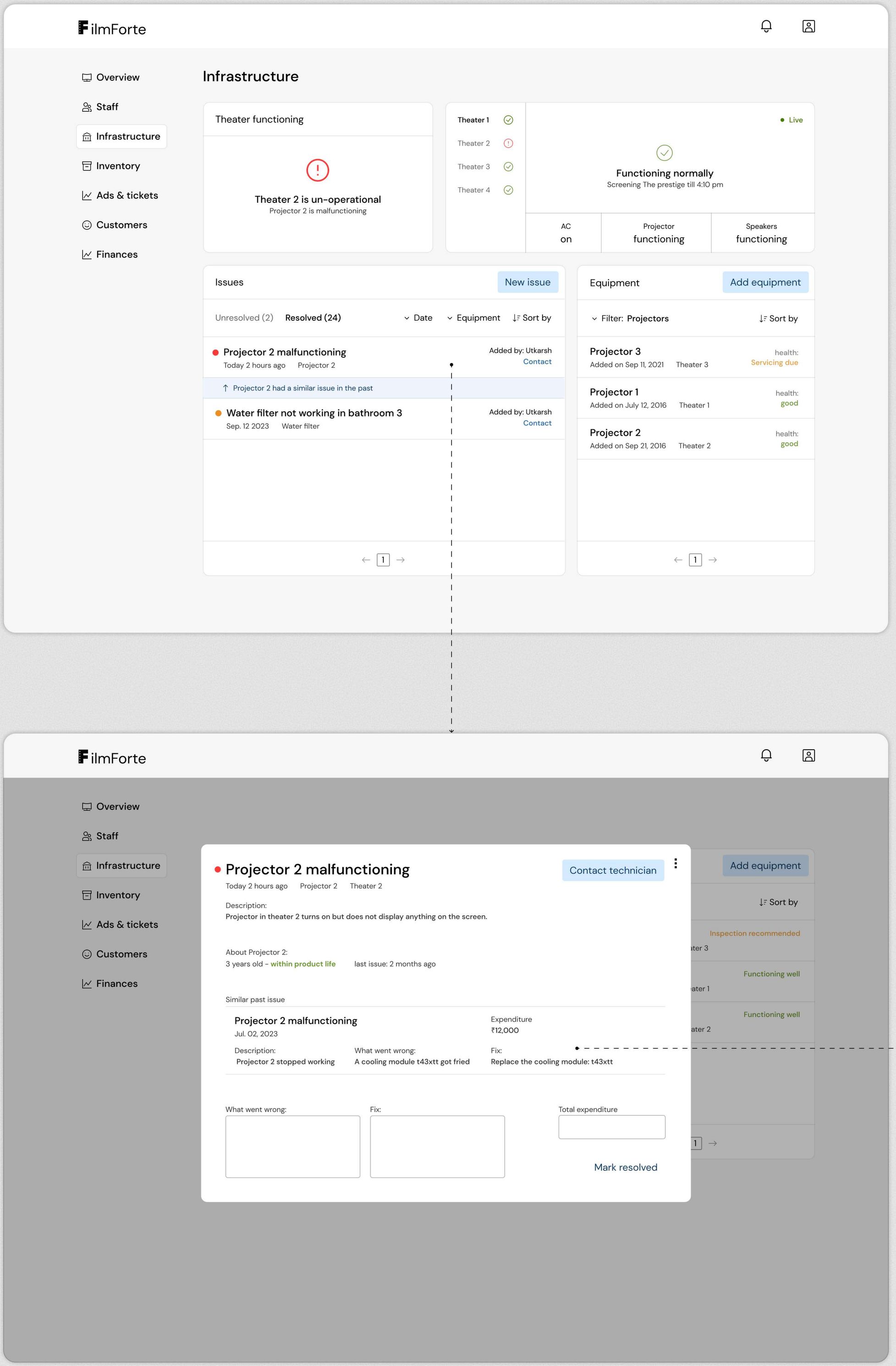
Highest	Classic	Prime	Prime plus
	₹400	₹450	₹600

Infra
Projector 2 not working
Theater 2

Then a new critical notification tells Ravi that Projector 2 is malfunctioning. This could affect screening at 4. He clicks on it to go to the Infrastructure page.

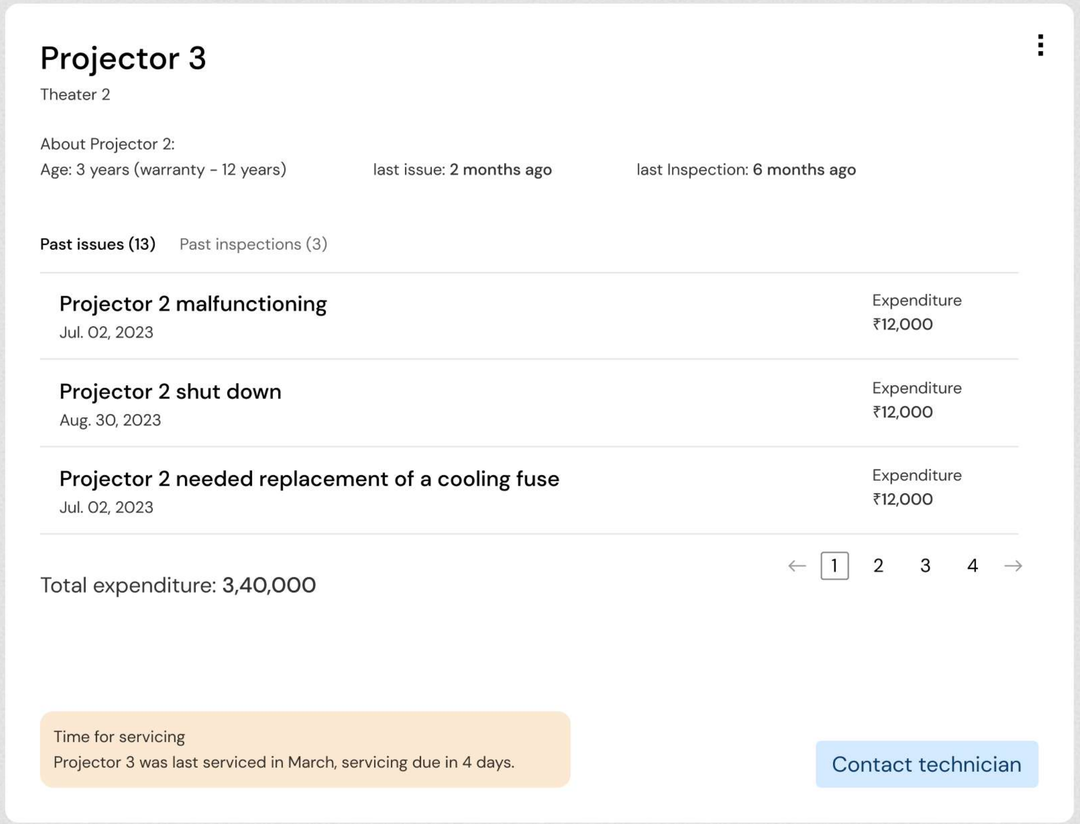
Infrastructure

He sees that a new issue has been added by Utkarsh, projector 2 is un operational. However, there is hope! a small prompt says projector 2 had similar issue in the past. maybe doing the same fix can work this time also. So he clicks on it.



The issue dialog box appears, it shows the past similar issue and the fix for it. Ravi calls the technician as well as tries to change the module.

Changing the module fixes the issue. They log it in the issues for further reference and mark it resolved.



This is what a regular equipment details pop up looks like.

Conclusion

Having quickly and easily resolved the issue, Ravi is relieved and resumes his day happily. In the evening, the staff was prepared for the high influx of visitors thanks to the footfall predictor, and was able to handle the functioning smoothly despite low security.

Thank You

Shivam Kumar Roy