Frontend

There will be three types of logins on a common login screen ,
Third party auth like login with google, facebook etc. can be included as well owing to various authentication methods in spring security.

An admin will be able to see critical metrics in the home screen with a side menu having options to monitor application , manage resources in every possible way , the screen can be toggled from the same side menu.

The design can look something like here

Profile pic updating functionality can also be implemented but would be needing a third party object storage.

The monitor screen for admin will contain cards displaying critical metrics like cpu usage, disk usage etc. by some ways mentioned below.

Some suggested features:
Including hosted grafana link as well in the web app to see in depth info about the infra.
Integrating an SMS api to notify admin of alerts

Monitoring

In reference to the github issue **https://github.com/sastix/cms/issues/13**
Prometheus can be easily set up for a kubernetes cluster .
I have started experimenting with prometheus ,simulating a kube cluster using minikube.
To monitor the services , same webserver base url can be used with an extra /metrics endpoint.
As per the prometheius documentation we can get the following metrics:

1)number of served requests/number of failed requests: Counter metrics
2)cpu/memory usage- Gauge metrics

Note that some metrics can be calculated from the existing ones for example:
http_requests_per_second: It can be calculated from the following logs emitted by the service.

Web Server software (Nginx, Apache)
Environment (production, staging)
HTTP method (POST, GET)
Error code (404, 503)
HTTP response code (number)
Endpoint (/service1, /service2)
Datacenter zone (east, west)

Total number of requests per web server pod in production
Number of HTTP errors using the Apache server for service2 in stage
Slowest POST requests segmented by endpoint URL

For visualizing metrics into out public facing app . I found this really cool js library
https://github.com/samber/chartjs-plugin-datasource-prometheus
Using this iwe can directly query prometheus and show metrics in our app.

Other method includes sending metrics to a time series db for instance elastic search and then reading the metrics from there or directly using endpoints exposed by prometheus.

One potential open source idea*: React component having configurable fields to show monitoring metrics, just plug this react component into your app and start visualizing stuff*
This idea can be implemented as part of this project

Some cumulative metrics can also be included later depending upon the functionality.

For the metrics that does not stay long to be scrapped , we can use pushgateway that will expose these metrics to Prometheus.