

# Front-End Internship Journal: Enhancing UI and Implementing User Analytics with Reactjs and Chartjs in Property Business Admin Portal

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**ABSTRACT:** This paper presents an overview of the author's internship experience at Astra Property, focusing on front-end development tasks undertaken within the admin portal project. The author discusses the practical application of software engineering principles and methodologies, with a particular emphasis on agile methodology facilitated by Jira software utilising Kanban methods. Tasks executed during the internship include refining sorting systems, implementing advanced features such as the Daily Active Users dashboard using Chart.js, and collaborating with colleagues to optimise user interface design. Through a systematic approach to project management and iterative development processes, the author has produced an enhanced user experience through design revamp and improved task efficiency with quick links applied. This experience serves to deepen the author's understanding of front-end development practices and underscores the importance of continuous learning and adaptation in the software engineering domain.

**Keywords:** Agile Methodology, Admin Portal, Reactjs, Ant Design, Chartjs

## 1. INTRODUCTION

This academic journal documents the transformative journey of a front-end intern with Astra Property (Menara Astra), delving into the intricacies of UI (User Interface) design and user analytics. The author engaged in a diverse array of tasks, from revitalising UI components to implementing sophisticated user analytics features. Through this journal, the aim is to provide a comprehensive overview of the experiences, insights, and contributions made to the field of property business administration. By exploring the challenges, triumphs, and lessons learned, this journal serves as a testament to the significance of front-end development in driving innovation and efficiency within the property business sector.

Over the span of six months, the author was assigned to the front end within the context of an admin internal portal web. Some studies delineate a web portal as an information

gateway. Essentially, web portals consolidate pertinent information resources into a singular comprehensive web page. This functionality is instrumental in averting user disorientation within the vast expanse of the web.

The first problem entails the need to check the sorting system where the data sorting appears to be invalid. In one case, the developer tested the page where we acted as a user who wanted to see the data in order by date whether it's ascendingly or descendingly. During the testing for descending order the data is in order accordingly however the ascending could not run the data ascendingly.

Another notable task involves creating a page to preview daily activity users, leveraging the advantages of Chart.js for data visualisation and combining it with the Ant Design React UI package. However it's important to note that Chart.js. In addition to developing the page for previewing daily activity users, another

significant endeavour undertaken was the revamp of the login page UI. This initiative aimed to enhance the user experience and match the overall theme of the site alongside working on design improvement for the forgot password page and the OTP page as well.

## 2. LITERATURE REVIEW

Software Engineering, precisely in Agile Methodology, defined by iterative software development cycles, differs from the linear style of Waterfall methodology. In Agile, each cycle consists of design, implementation, testing, and deployment stages, resulting in a mini-project within the specified scope. The team finishes a part of the project that could be sent out to customers at the end of each cycle through software updates. Allowing for incremental project expansion through the introduction of new features. Early feature validation during development minimises the likelihood of producing a faulty product.

Within the scope of the web admin portal in Astra Property, the programming language used is ReactJS, it's a powerful framework for building beautiful user interfaces by implementing core JavaScript features. Its simplicity, performance, and the ability to create reusable components make it a popular choice among developers for building modern web applications. The demand for ReactJS and its functionalities is expected to grow in the future, solidifying its relevance in the market.

ReactJS, a framework that also cooperates effectively with npm (Node Package management), a package management system for Node.js, streamlines operations by managing multiple packages and their dependencies, thus reducing the time needed for execution.

The introduction of hooks in ReactJS has revolutionised the development landscape, allowing functional components to harness state and other React features without resorting

to class-based structures. By employing hooks like `useState`, `useEffect`. developers can encapsulate stateful functionality within simple JavaScript functions, fostering code modularity and ease of maintenance.

## 3. METHODOLOGY

In Astra Property, the IT team especially the developers are practising Agile Methodology while benefiting from Atlassian's Jira Software enabling the developers to track the progress on tasks, ranging from minor fixes to big features such as page revamp.

In Jira, users can create boards to visualise and manage their work, and one of the board types available is Kanban. Kanban boards in Jira allow teams to visualise their workflow, track work items as they progress through different stages, set WIP (Work In Progress) limits, and continuously improve their processes. The developers can create epics and user stories, the tasks are categorised as user stories for example, fix breadcrumb for Assurances Management page including the create, edit and view page, this is one of the author's user story/task and it was assessed by how long the task is complete.

In the Jira workflow of Astra Property, tasks progress through seven key stages. These stages are: TO DO, where tasks are queued for action; IN PROGRESS, where developers actively work on the task; INTERNAL TESTING, where developers conduct initial testing of fixes or features; TESTING PASSED, indicating successful testing by developers and project managers; TESTING REVISION, where further adjustments are made if necessary; PENDING, for final review and approval; and finally, DEPLOYED, marking completion and implementation of the task.

For interneer, a single story point means the task is done in one day and it'll be added more depending completion time in days unit, while

the full time developers will have three story point for two days task, all the story points ultimately adding up into the sprint so it could track which developers are working extra or less. Each task will complete the epics little by little until it reaches satisfactory results. The team of developers usually work in a two week sprint timeline depending on the situation and the calendar. Each respective team's project manager will then provide an update using these story points and reviewed by the department head on a weekly basis.

4. RESULT

One of the earlier tasks in Astra Property is fairly easier than the latter task, it includes adding breadcrumb UI and fixing the sorting system in the Ticket Management.

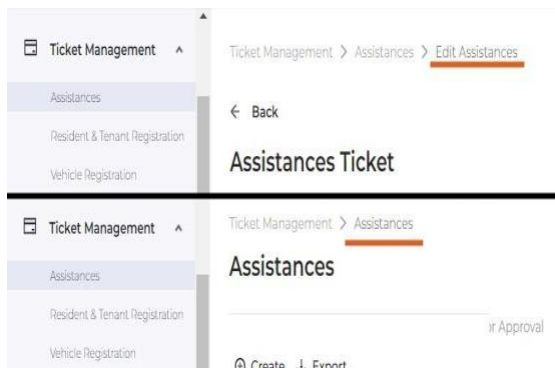


Figure 1. Breadcrumb incorporated.

Chartjs is mainly used on the DauMau (daily activity users monthly activity users) page, to be used to show how many users have accessed the site in four different sets of time, daily, weekly, monthly, yearly. In daily, the bar chart is used to show two different points, the blue bar shows today's while the grey bar shows the date before today picked using the Antd's DatePicker. The author also made sure to set the future dates in the DatePicker to be disabled due to invalid data not just in Daily but also for the rest of the DauMau features.

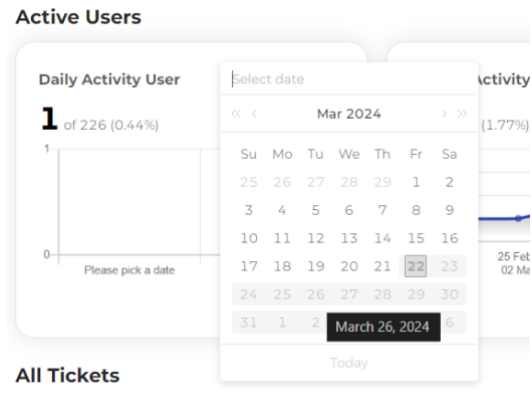


Figure 2. Disabled date in DatePicker.

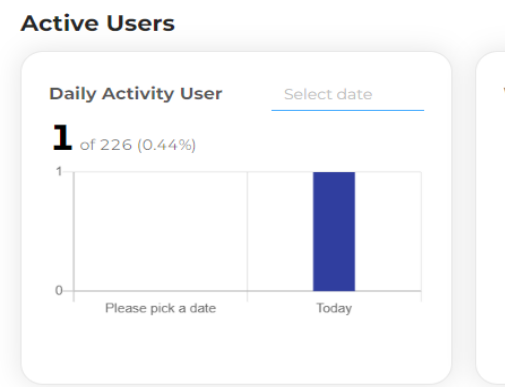


Figure 3. depicts the interface behaviour upon selection of a specific date within the Daily section.

In Figure 3. The first condition when the page is first loaded is to show how many users logged in today in both the text number above the chart and the blue chart. The grey bar hasn't been shown yet, users need to select a date before today first, that's why there's an important note to ask the user to select a date for comparison. Through the meticulous observation of this graphical representation, one can discern the intricate details of how the interface adapts and responds to user input, offering valuable insights into the user experience design principles underpinning the application's functionality.

On the DauMau page, it's what the developer always refers to in the office. It was decided to add all the ticket management on the page to showcase the tickets with the objective of

fulfilling all the resident's or tenant's needs. In the context of this app customer, the resident is the person who resides in housing developed by Astra Property, while tenants are the person who rented in the Astra Property owned condo.

The ticket management was arranged using Ant Design's Card and displayed as 3x4 for symmetrical layout. Accordion component is incorporated to hide the last two rows of the ticket management by using Antd Button with the text "Show More" attached to and set the button `width='100%'` to make the button fill the space horizontally.



Figure 4. Hidden accordion.

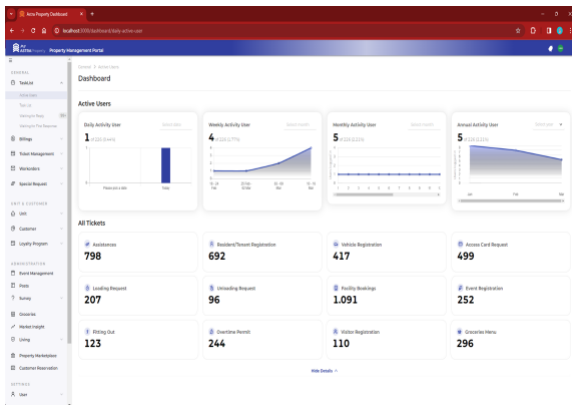


Figure 5. Accordion reveal.

The latest task is to update the profile card on the landing page, the first page user sees after successfully logged in. Quick links are also added which are essentially shortcuts that allow users to swiftly navigate to specific pages without having to locate them through the sidebar.



Figure 6. The profile on landing page before update

In addition to their functional benefits, the implementation of quick links was also driven by a design update from the UI/UX designer. This design update aimed to enhance the overall user experience by incorporating intuitive navigation elements that align with modern design principles.

To observe the latest appearance of the landing page, please refer to Figure 7. By integrating Quick Links into the user interface, the design not only improves accessibility but also reflects the designer's vision for a seamless and user-friendly browsing experience. Thus, the collaboration between the author and the UI/UX designer resulted in a harmonious blend of functionality and aesthetics, ultimately enriching the user journey within the platform.

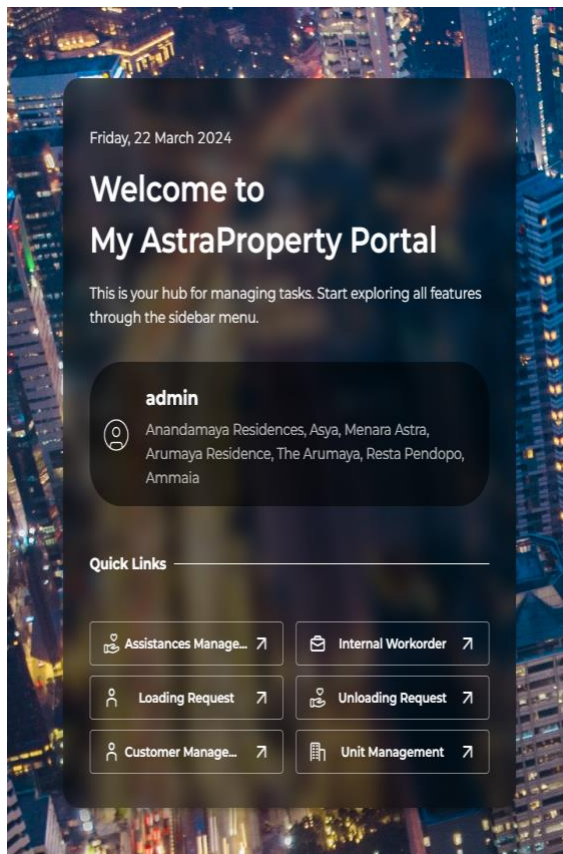


Figure 7. After the addition of Quick Links on the landing page.

In addition to the modifications made with the exception of today's date display, the welcome text, which now includes a newline, and the description text, the author has changed the background into more blurry feels to it while also included a project site under the username "admin." It's worth noting that "admin" serves as a testing username with access to all sites, as indicated in Figure 7. In the real user scenarios, it will only show one of the sites. The objective behind adding project sites under the user profile is to provide convenient access and centralised management for the user, facilitating seamless navigation and efficient oversight of multiple projects. Furthermore, the integration of Quick Links further enhances user experience by offering expedited access to frequently visited or critical pages within the platform.

## 5. CONCLUSION

In conclusion, my internship experience at Astra Property has been both enriching and fulfilling. From the outset, I was entrusted with significant responsibilities within the realm of front-end development, primarily focusing on enhancing the user interface of the admin portal. Through diligent efforts and collaboration with colleagues, I successfully addressed various tasks, ranging from refining sorting systems to implementing advanced features like the Daily Active Users dashboard using Chart.js. Leveraging agile methodologies facilitated by Jira software with Kanban methods, I navigated through project cycles with agility and efficiency. This experience not only honed my technical skills but also deepened my understanding of software engineering principles and methodologies.

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