

**Optimizing HR Data Management: A Product Design Analysis of
TartanNodes API**

**Project report submitted in partial fulfilment of the requirement
for the degree of Bachelor of Technology
in**

Computer Science and Engineering/Information Technology

By

Kush Verma(191368)

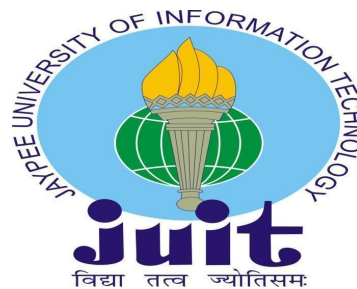
Under the supervision of

Dr. Amol Vasudeva(Assistant Professor, CSE)

&

Pallav Kumar Nayak (Product Manager, TartanHQ)

to



**Department of Computer Science & Engineering and Information
Technology**

**Jaypee University of Information Technology Waknaghat,
Solan-173234, Himachal Pradesh**

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Acknowledgement

I am pleased to present this comprehensive report on my internship experience at TartanHQ in the field of product design. This opportunity provided by Jaypee University of Information Technology has been an invaluable experience, allowing me to gain practical knowledge, hone my skills, and apply classroom theories to real-world problems. I extend my heartfelt appreciation to my internship supervisors for their guidance and support, which have been critical to my professional development.

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List of Abbreviations

Abbreviations	Definition
UX	User Experience
HRMS	Human Resource Management System
API	Application Programming Interface

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Abstract

The field of design has undergone significant advancements in recent years, with the emergence of new technologies and tools that allow for the creation and manipulation of visual and interactive experiences. The use of digital technologies in the design process has led to the generation of vast amounts of data, including user feedback, engagement metrics, and design performance indicators. The analysis and interpretation of this data hold significant potential for designers, enabling them to gain insights into user behavior, design effectiveness, and the impact of different design decisions.

This special issue focuses on the modeling and processing of design data using signal processing techniques, with the aim of uncovering new insights and opportunities in the field of design. Signal processing techniques are crucial in the extraction, processing, and interpretation of data, enabling designers to identify patterns, trends, and relationships that may be otherwise difficult to detect. By employing signal processing techniques, designers can gain a deeper understanding of user needs, preferences, and behaviors, and use this information to develop more effective and engaging designs.

Signal processing techniques are crucial in the extraction, processing, and interpretation of the information present in design data. These techniques have the potential to reveal new insights into the design process, from identifying patterns and trends in user feedback to analyzing the performance of different design elements.

The use of signal processing techniques in design is not new, and designers have been using these techniques for decades to analyze and manipulate visual and audio signals. However, the emergence of new technologies, such as machine learning and artificial intelligence, has enabled designers to take signal processing to new heights, allowing for the creation of more sophisticated and personalized designs.

CHAPTER 1: INTRODUCTION

1.1 Introduction

Tartan is a financial technology business that delivers software solutions to financial institutions. Pramey Jain and Meet Semrani founded the company in 2014, after previously working at Google on the Google Wallet mobile payment platform. With Tartan, they wanted to provide financial institutions with state-of-the-art tools for analysing transaction data and producing insights that might be used to improve their services. Tartan's staff of highly qualified data analysts, engineers, and financial professionals has helped the company swiftly establish itself as a global leader in cutting-edge technical solutions for the financial services industry.

In essence, Tartan serves as a platform for data dissemination. The real consumers are those in the working class or professionals. As long as you are employed and earning money, regardless of whether you work in a senior role for any corporation or as an independent worker for a delivery service delivering food, commodities, etc., you are seen as a working professional. Additionally, our platform mainly focuses on two issues: how to use their employment and income data, and how to obtain products like credit cards and loans through a self-service marketplace.

Now imagine that you are a working professional looking for a vehicle loan. A number of requirements must be met, including completing the KYC process and supplying documentation to confirm your income, such as statements from banks. To get the necessary data, customers and financial institutions must participate in a time-consuming back-and-forth procedure. Using Tartan, employees may quickly verify their employment and financial situation with any company,

instantaneously exchanging the information present in their employer's HRMS or payroll system. This entire procedure takes under a minute.

Tartan's core product is a platform that uses machine learning algorithms to identify trends in transaction data and generate insights for risk management, fraud detection, and customer support. By monitoring innumerable transactions in real-time, Tartan's software can instantly identify potential issues and provide financial institutions with the resources they need to address them.



Fig. 1.1 Tartan Logo

One of the key characteristics of the Tartan platform is its ability to provide exceptionally accurate and reliable insights about customer behaviours. By looking at transaction data, Tartan can identify trends that suggest fraud or other potentially questionable behaviour. Then, using this knowledge, financial institutions may improve their risk management practises and thwart fraud.

In addition to its ability to detect fraud, the Tartan platform may help financial institutions improve their consumer experience. Thanks to its advanced data analysis abilities Tartan is able to derive deep understanding about customers' preferences and patterns through transactional data mining - providing a

competitive edge for banks seeking ways to customize service delivery for better customer satisfaction levels. Many leading names in banking sector globally have already acted on this opportunity by using Tartan solution towards personalization of services.

These organizations encompass a diverse range of entities such as US based financial conglomerates, European financial institutions and Asian players. Tartan is in a prime position to sustain its rapid growth and establish itself as the industry leader in financial technology because to its track record of success and commitment to creativity and innovation.

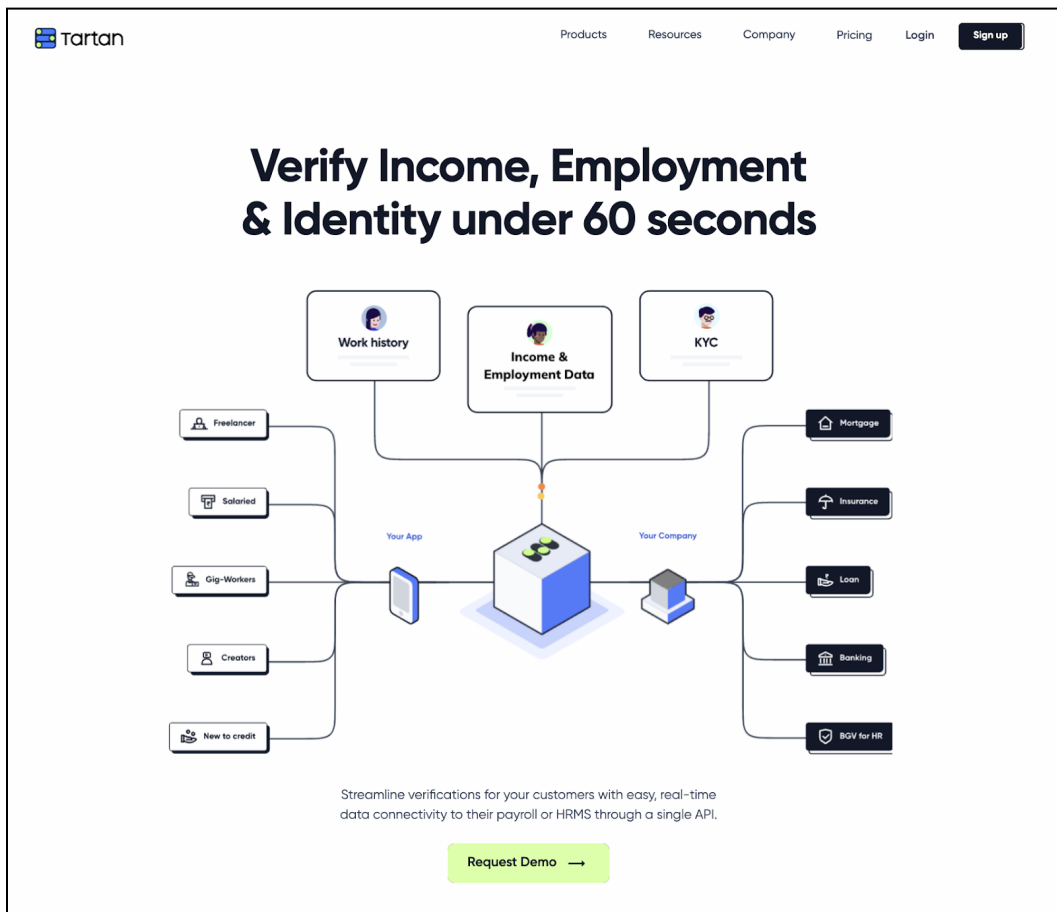


Fig. 1.2 Tartan's Website

Tartan has developed several financial technology solutions that are in addition to its platform for studying transaction data. It has created a system for the management of loans and collections that uses machine learning and data analysis to help financial institutions reduce defaults and delinquencies. Tartan has also developed a system for monitoring compliance in order to streamline compliance operations and reduce the risk of non-compliance.

Tartan is renowned for its dedication to data security and privacy as well as to its technological solutions. The business has put in place strong security measures to safeguard client information, and it abides by stringent data privacy laws to make sure that its customers continue to comply with relevant laws and regulations.

Pramey Jain and Meet Semrani, the founders of Tartan, have been collaborating for a long time with the aim of assisting the gig economy. After observing that many gig economy employees have trouble managing their accounts, the initial concept was to develop a customised finance management tool for these individuals. They were particularly aware of the financial difficulties faced by food delivery drivers and understood how the COVID-19 pandemic had a greater impact on these underprivileged groups. The housekeeper for Meet Semrani, who had a regular job through Ola, struggled with money issues throughout the lockdown. As they worked together to locate them for financing through their network, the founders realised that they were attempting to assist a group that was both underserved and deserving of assistance. They knew from personal experience that house loan offers did not favour this group of working-class borrowers. Further study into the problem indicated that the absence of data consideration for this segment was the primary contributor.

Pramey Jain and Meet Semrani, the company's founders, established a way to leverage income information to help banks give loans to underrepresented groups. They established Tartan to serve as the necessary data layer after realising the need for one. They realised as they developed the concept that the issue was more

complicated than they had previously believed and that even those with active occupations were unable to get the right financial solutions.

The financial technology business Tartan has secured funding from a range of backers. Over the course of two investment rounds, the company secured an overall 13.7 million dollars in funding. Here are a few financiers who have backed Tartan:

1. Nyca Partners: Venture capital firm Nyca Partners specialises on funding fledgling fintech companies. PayRange, Plaid, and Robinhood are just a few of the prosperous financial technology startups in which the company has made investments. Tartan received startup money from Nyca Partners in 2016.
2. Comcast Ventures: Comcast Corporation, a well-known media and technology firm, has a venture capital division called Comcast Ventures. The company has made investments in numerous technological firms in various sectors. In 2016, Comcast Ventures took part in Tartan's seed fundraising round.
3. Initialized Capital: Venture capital company Initialised Capital specialises on funding early-stage entrepreneurs. The company has made investments in several profitable businesses, such as Coinbase, Instacart, and Cruise Automation. In 2016, Initialised Capital took part in the Tartan's seed funding round.
4. Fika Ventures: Early-stage venture capital company Fika Ventures invests in technology firms across a range of industries. The company has made investments in a variety of profitable businesses, including Everlaw, Flexport, and Robinhood. In 2018, Fika Ventures took part in Tartan's preliminary fundraising round.

5. Arbor Ventures: Venture capital firm Arbour Ventures specialises on funding emerging companies in the financial technology sector. OpenDoor, Finix, and Rapyd are just a few of the successful businesses that the company has backed. In 2018, Arbour Ventures took part in Tartan's initial fundraising round.

The Pre-Series, worth \$4.5 million According to Tartan, a fintech enabler, a fundraise from 500 global, InfoEdge Ventures, Naveen Kukreja's Emphasis Ventures (EMVC), WorldQuant Ventures, and the Angellist Quant Fund funded by Naval Ravikant has been completed. Since the business was established in June 2021, \$6 million has reportedly been raised.

Batik-Another Venture: Batik is a provider of software products for small to medium-sized organisations in the financial technology sector. The company wants to equip businesses with the resources and knowledge they need to succeed in the modern digital economy.

Batik, a company established in early 2019 by Pramey Jain and Meet Semlani, provides a full range of financial software solutions aimed at improving business financial management. The company's platform uses data analysis & machine learning to optimize cash flow, manage to account, send invoices to customers, and handle payments for enterprises.



Fig. 1.3 Batik's Logo

The platform's tool for managing cash flow is one of its essential components. The software enables businesses to make better choices about when to pay their payments, when to invoice clients, as well as when to make tactical investments in their company by giving them a real-time snapshot of their cash position. Businesses can forecast future cash flow and avoid unexpected cash shortages by utilizing Batik's platform.

An essential component of the platform is its accounting function, enabling companies to manage their finances in a centralized location while integrating with notable accounting software such as QuickBooks and Xero. Businesses are able to monitor their revenue and expenditures and remain on track with their finances with the help of the platform's ability to automatically categorise transactions and produce financial reports.

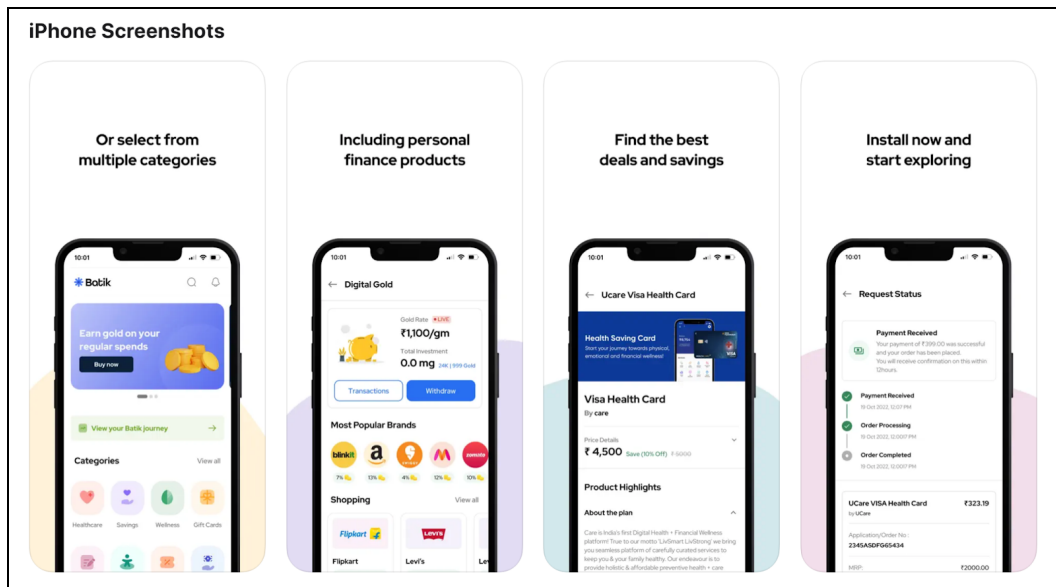


Fig. 1.4 Batik's App

The Batik platform also features an effective invoicing solution that streamlines the creation and delivery of bills to clients. According to consumer requests or contracts, the system can automatically create invoices, which firms can then customise using their personal branding and messaging. Additionally, the

platform has the ability to monitor the status of invoices and notify clients who still owe money.

The Batik platform has a payment processing option in addition to capabilities for financial management, accounting, and invoicing. The platform may immediately reconcile payments with invoices and accepts a number of methods of payment, including credit card and ACH payments. Businesses can easily handle future payments thanks to the platform's ability to securely store client payment information.

Generally speaking, Batik's platform offers small and medium-sized enterprises a full range of accounting information and resources that are generally only accessible to bigger organisations having dedicated finance teams. Batik empowers companies to make smarter financial decisions, optimise cash flow, and expand their operations by utilising the strength of data analysis and machine learning.

The company wants to be the top provider of incentives, benefits, and employee engagement. Their goal is to serve as a single point of contact for a larger ecosystem with more participants. They collaborate with both large enterprises and smaller entrepreneurs. The ultimate goal is to collaborate with various organisations and offer a one-stop service that addresses the requirements of employees as well as employers, thereby boosting engagement and happiness. The business thinks that by doing this, people will be able to transition into their positions more easily and ultimately resolve a social issue.

The company wants to grow internationally in addition to meeting the demands of the neighbourhood market. Such items are needed in nations like Vietnam, the Philippines, Singapore, and Indonesia, and the company intends to expand to Europe and the US. Even if each individual employee can benefit from these products, the corporation is aware that these locations have strict labour rules and

that government agencies must take care of them. The emphasis on employee-employer engagement, which the corporation views as a top priority, lies at the core of all these activities.

1.2 Problem Statement

In order to help HR teams manage employee data, this project will introduce a new functionality to the Tartan Nodes API that will enable bulk data transfer, real-time changes, and safe data transmission. Designing a user-friendly, effective solution that can smoothly interact with current HR systems while protecting employee data privacy and security is a problem. A two-way consent system is required in order to give workers more control over their data and guarantee that only authorised parties may access it. The goal is to provide an API functionality that increases user experience, employee data management efficiency, and security.

1.3 Objectives

For its clients, the cloud-based HR management platform Tartan Nodes seeks to enhance user experience and expedite HR procedures. The existing user interface design, however, is inconsistent and may be perplexing to users. The goal of this project is to revamp the user interface while keeping the brand's aesthetic appeal and consistency to make it more intuitive and user-friendly. Users should be able to simply explore and comprehend the platform's numerous features and functionalities thanks to the new design, which also offers a consistent user experience across devices. In order to guarantee that all users, especially those with impairments, can use the platform efficiently, the design should also contain accessibility guidelines.

1.4 Methodology

Through the provision of a single system that automates data transmission, changes, and safe storage, Tartan Nodes API seeks to streamline the HR management process. The product design process will use a number of strategies to accomplish this:

1. **User-Centered Design:** To better understand the wants, problems, and actions of suppliers and HR teams, the product design team will carry out user research.
2. **Agile Methodology:** The building process will employ iterative releases that take user feedback into account. By doing this, it will be made sure that the product is always evolving to meet the changing demands of people.
3. **Data-Driven Design:** To guide design decisions, the product design team will examine data on user behaviour and product usage.
4. **Collaborative Design:** Cross-functional collaboration will be used during the product design process, and stakeholders including teams of developers, UX designers, product managers, and customer support staff will all have input.

These strategies will be used in the Tartan Nodes API product design process to provide a result that offers firms streamlined and effective HR administration.

CHAPTER 2: LITERATURE SURVEY

For a fintech product to satisfy the demands of its consumers, numerous stages of product design must be properly addressed. Iterative design processes need a thorough comprehension of user behaviour and expectations. The fintech design process entails recognising the issue, doing research, creating a prototype, and evaluating the product to make sure it is user-friendly and achieves the goals of the company. We will go into the design process in fintech and the significance of user experience (UX) in this literature study.

As it serves as the starting point for the remainder of the design process, problem identification is a crucial step in the design process. The design team must comprehend the demands and preferences of the user throughout the problem identification phase. This entails gathering information about the user's pain spots, behaviours, and expectations through user research using interviews, questionnaires, and observations. The information gathered at this point is utilised to develop user personas and user journeys, which aid designers in comprehending the objectives and motivations of users. The design team formulates a problem statement based on the information gathered on the demands of the user and the business's goals. The problem that the design team is attempting to address should be clearly stated in the problem statement. It must be targeted, precise, and quantifiable. Understanding the requirements and preferences of the user requires the usage of user personas and user journeys. User personas are made-up characters that embody the traits, habits, and objectives of users. User journeys show the user's interaction with a product or service and aid designers in identifying potential areas for development. Testing of a problem statement with its intended audience constitutes an essential part of the design teams process for ensuring accurate

identification of vital issues. With feedback gathered from these trials revisions can be made as necessary to appropriately focus efforts on resolving problems.

Technological innovations and changing consumer demands are bringing about quick transformations within fintech sector. In the fintech sector, research is essential for businesses to uncover new possibilities, create cutting-edge goods and services, and maintain competitiveness in a market that is changing quickly. Understanding market trends is one of the main topics of study in the fintech sector. This entails examining the market's size, expansion potential, and rivalry. Additionally, research aids businesses in comprehending client preferences, habits, and expectations. In order to learn more about the requirements and preferences of the target audience, user research, questionnaires, and data analysis are conducted. Additionally, testing and certifying goods and services rely heavily on research. In order to acquire consumer input and pinpoint areas for improvement, this requires carrying out user testing, A/B tests, and other types of testing. The next step in the design process is ideation, which is crucial because it involves designers coming up with original and creative concepts that embody a variety of viewpoints and ideas. Research in this area aids businesses in improving their goods and services and making sure they satisfy the needs and preferences of the customers. Designers might depart from traditional thinking during this stage and consider cutting-edge solutions to challenging problems. Designers use a divergent thinking strategy throughout the brainstorming process to explore a wide range of concepts without being constrained by preconceived notions or under time constraints. This strategy encourages participants to build on one other's contributions in a friendly and collaborative setting, fostering a free-flowing interchange of ideas. Utilising a number of ideation approaches and tools, including as brainstorming, mind mapping, and design thinking, ideation demands the integration of both analytical and creative thinking.

These methods make it easier to explore several perspectives and dimensions, allowing designers to combine creative notions and ideas that are pertinent to the current design issue. Designers can come up with a variety of ideas and investigate alternative design possibilities that they may not have previously thought of during the ideation process. With the help of this method, designers may explore all potential outcomes and open up fresh doors for originality and creativity.

In order to visualise and test ideas in a physical form, prototyping is crucial in the design process. By using prototypes, designers may find any usability and functionality problems and make the required adjustments to the design so that the final product satisfies both user demands and business goals. Depending on the complexity of the project and the stage of the design process, designers might build a variety of prototypes. The following are a few of the most typical kinds of prototypes:

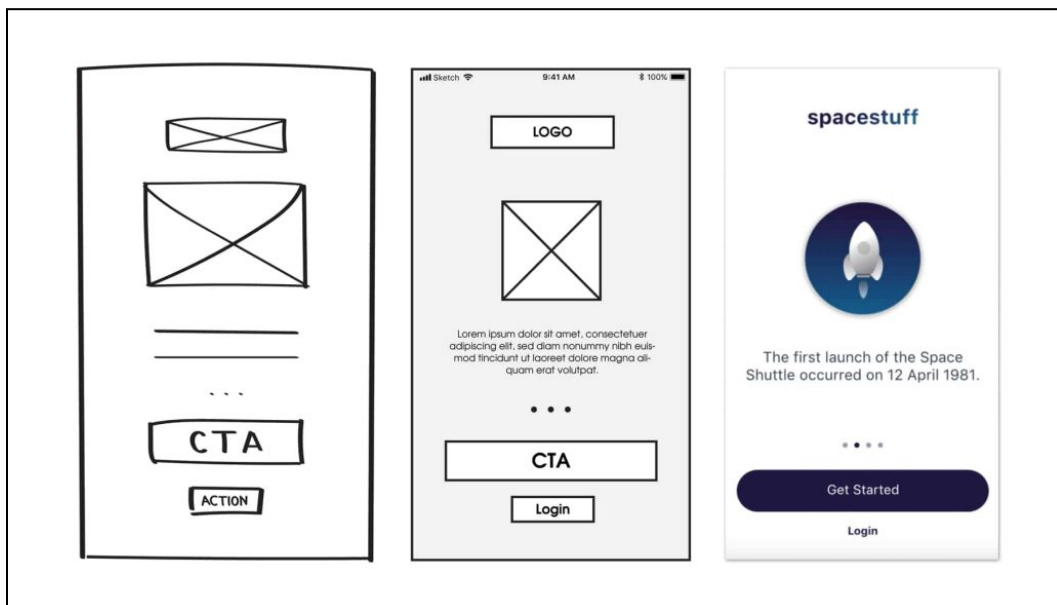


Fig. 2.1 Low vs Mid vs High Fidelity Prototypes

1. **Low-Fidelity Prototypes:** Low-fidelity prototypes are easy and quick to make, and they are frequently used in the preliminary phases of the design process to investigate and test a variety of concepts. These prototypes often consist of cardboard or paper and lack interactive elements.
2. **Medium-Fidelity Prototypes:** Compared to low-fidelity prototypes, medium-fidelity mockups are more detailed and may have interactive elements. These prototypes, which are intended to evaluate the usability and functioning of the product, are often made using wireframing or mockup technologies.
3. **High-Fidelity Prototypes:** Prototypes that are high-fidelity closely match the finished product and are the most intricate and interactive prototypes. For assessing the product's aesthetic, functionality, and usability, these prototypes are often made using prototyping programmes like Figma or Sketch.

Testing comes next once the design team has produced a prototype. Testing is a crucial step in the design process that enables designers to assess how well their product meets the demands of consumers and corporate goals. Testing is a crucial step in the design process since it enables designers to spot any problems that need to be fixed before the product is released. Designers may gain insight from the target market through testing, which aids in the product's refinement and improvement. Designers can conduct a variety of tests, including as acceptability testing, A/B testing, and usability testing.

1. **Usability Testing:** This process focuses on determining how user-friendly and intuitive a product is. The interaction of consumers with the product is observed by designers, who then note any usability

problems. Testing for usability is essential since it guarantees that the product is simple to use and satisfies consumers' demands.

2. A/B Testing: To find out which version of the product works better, two versions are created and tested with various users. The optimum design aspects for the target audience must be determined through A/B testing.
3. Acceptance Testing: Testing the functioning of the product to see if it satisfies the business goals is known as acceptance testing. The goal of the testing is to find any flaws or issues in the product and confirm that it is prepared for release.

Distant testing, live testing, and evaluations by experts are the three basic types of testing. Remote testing is economical and enables testing with a population from various geographical areas. In-person testing offers quick feedback and enables required adjustments. In order to find design problems and make sure the product achieves commercial goals, expert review is crucial.

Designers must use their design process frameworks as a reference when navigating the process. The Double Diamond framework, a strategic design method that directs designers throughout the design process, is one of the most well-known design process frameworks. Discover, Define, Develop, and Deliver are its four steps. Each step has a particular set of tasks intended to guarantee that the design process is exhaustive and thorough. We will go into the Double Diamond architecture in this part, examining its nuances and outlining the tasks associated with each step.

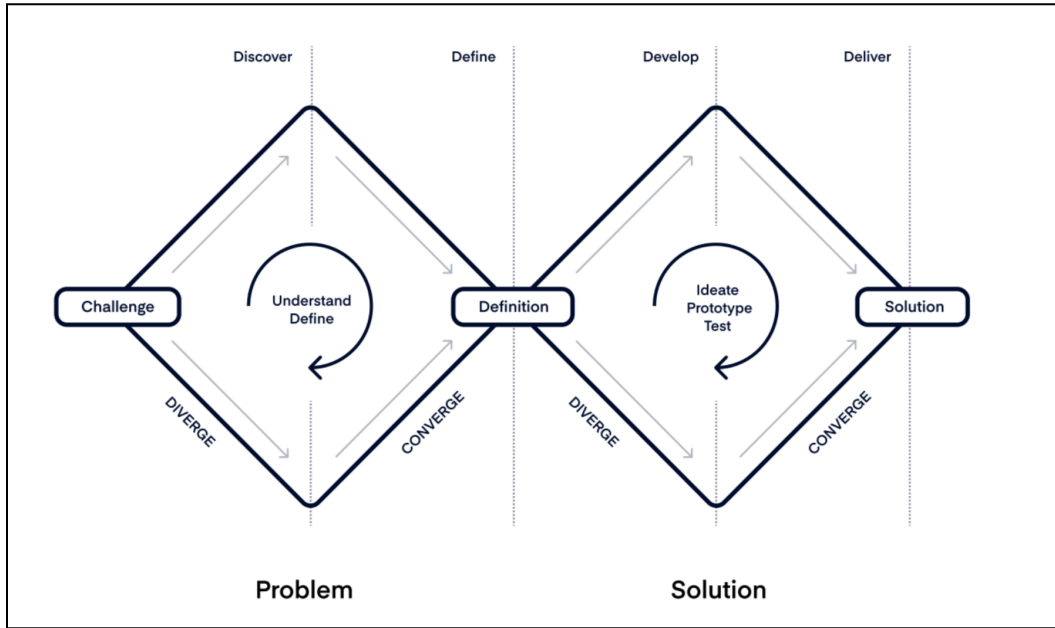


Fig. 2.2 Double Diamond Process

1. Discover Stage: The Double Diamond framework's initial level is called the Discover stage. It entails investigating the issue and determining the difficulties that must be overcome. In order to pinpoint the source of the issue, designers do research, collect data, and analyse it. In order to ensure that designers get a thorough grasp of the issue, which will direct them through the design process, it is essential that they complete the Discover stage.

2. Define Stage: The second level of the Double Diamond structure is the define stage. Designers define the issue and construct a problem statement at this step. For the remainder of the design process, the problem statement acts as a compass. Designers utilise the data gathered in the Discover stage to determine the needs, objectives, and preferences of the consumers during the Define step. Making sure that designers had a thorough knowledge of the issue and the demands of the consumers is crucial at this point.

3. **Develop Stage:** The third level of the Double Diamond structure is called the "Develop" stage. Designers brainstorm ideas and build solutions in this step using the issue statement they developed in the Define stage. To come up with several solutions to the issue, the designers employ ideation approaches. The Develop phase is a creative procedure that calls for flexibility and originality from designers.
4. **Deliver Stage:** The Double Diamond framework's Deliver stage is the last one. Designers supply the finished item or service at this point. The designers build a prototype using the ideas created during the Develop stage, which is then put to the test with actual users. The product is improved by the designers in response to consumer input until it satisfies their requirements. Delivering the finished product and making sure it is high-quality, user-friendly, and achieves all business objectives is crucial.

The Double Diamond Framework has several advantages for both designers and companies. It gives the design process a defined framework, ensuring that designers take a methodical approach to problem-solve and lowering the possibility that they would overlook crucial aspects. Additionally, the framework improves the likelihood of success and their marketability of the finished product by concentrating on the wants and preferences of the user. In order to build a feeling of ownership and buy-in and lessen resistance to change, cooperation among designers, customers, and users is also encouraged. Finally, the framework encourages designers to go beyond the box and produce more innovative and successful solutions that satisfy user wants and corporate goals..

CHAPTER 3: SYSTEM DEVELOPMENT

I was in the role of studying and comprehending market requirements, identifying pain spots, and collaborating directly with the development team to create and implement a comprehensive solution during the development of TartanNodes API. I worked with the team to make sure the API's user interface and customer experience were simple to use and catered to the demands of end users. I actively took part in user testing and feedback sessions to make sure the finished product satisfied the users' requirements and expectations. My involvement in the creation of TartanNodes has deepened my awareness of the difficulties businesses encounter when exchanging employee information and the significance of creating a secure, dependable, and expandable solution to overcome those difficulties.

3.1 Nodes API

With its new TartanNodes feature, which offers a single API (Application Programming Interface) for retrieving personnel data in bulk, any HRMS (Human Resource Management System) may be more easily integrated. To put it simply, TartanNodes serves as a gateway to link HRMS systems with outside suppliers and service providers. Companies may quickly and easily access employee data in mass with TartanNodes without requiring for manual data transfer or reconciliation. The gateway is approved and validated by the company's CXOs or HR administrators, guaranteeing the safety and confidentiality of employee data.

An API (Application Programming Interface) is essentially a software bridge that enables communication between two programmes. It serves as a link between several software platforms, enabling data and capability sharing. Platform independence refers to an API's ability to function with many operating systems, languages for programming, and hardware. The ability to use pre-existing features

and information from other systems without having to start from scratch makes APIs crucial for creating modern software applications. They are utilised in a broad range of applications, including cloud computing, corporate software, and mobile apps and websites.

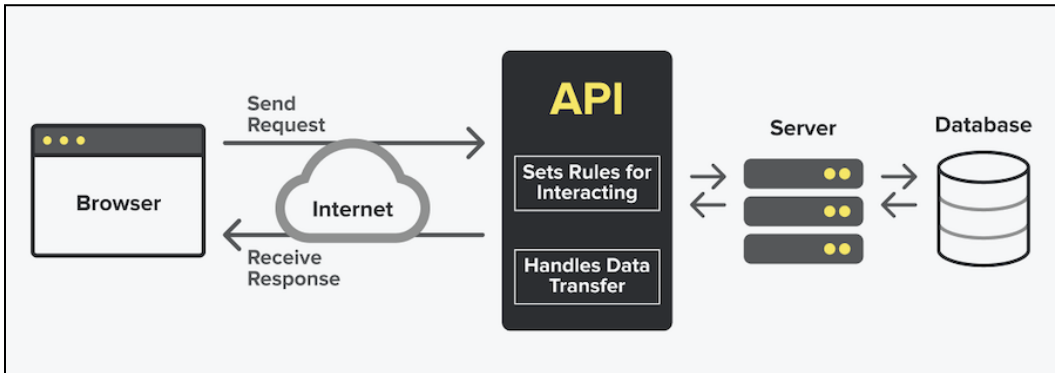


Fig. 3.1 API Integration Workflow

The lengthy and laborious manual process of data validation and transmission that HR teams frequently deal with is one of the major issues that TartanNodes seeks to address. By automating the transmission of data in bulk, HR departments may save considerable time and resources with TartanNodes. Additionally, TartanNodes offers businesses a quick and easy solution to bulk onboard services and consumer data. Vendors receive real-time data updates, guaranteeing that their information is always current.

TartanNodes' two-way permission system, which permits approval at both the HR and employee level, is another important aspect. This guarantees that employee data is safe and that only people with the proper authorization may access it. In order to safeguard data from any cyber risks, TartanNodes now offers secure data transmission. This service guarantees that data is transported in a safe and encrypted way. To further streamline the payroll process for businesses, EMI (Equated Monthly Installment) payments can be performed at the source throughout payroll processing.

3.1.1 Nodes API Working

WorkingTartanNodes is an effective technology that offers a single API for obtaining employee data in bulk, making the integration of any HRMS simpler. TartanNodes are required as a result of businesses' growing requirement to securely exchange personnel data with outside suppliers and service providers.

Let's use the example of Ema, an HR representative from Company X, to better understand how TartanNodes functions. Ema wishes to communicate employee information with PlumHQ, the company's insurance provider. Every month, Ema updates the data in the form of a CSV file, which it distributes through email and includes information on workers who have been active and deactivated. Data exchange via emails or manual reconciliation is a common but unsafe conventional practise. However, Ema can quickly and securely communicate the data with PlumHQ through a single API thanks to TartanNodes.

Companies may easily combine their payroll systems with outside suppliers because to TartanNodes' interfaces with 10 different payroll systems. In this scenario, TartanNodes and Razorpay are both linked payroll systems used by Company X.

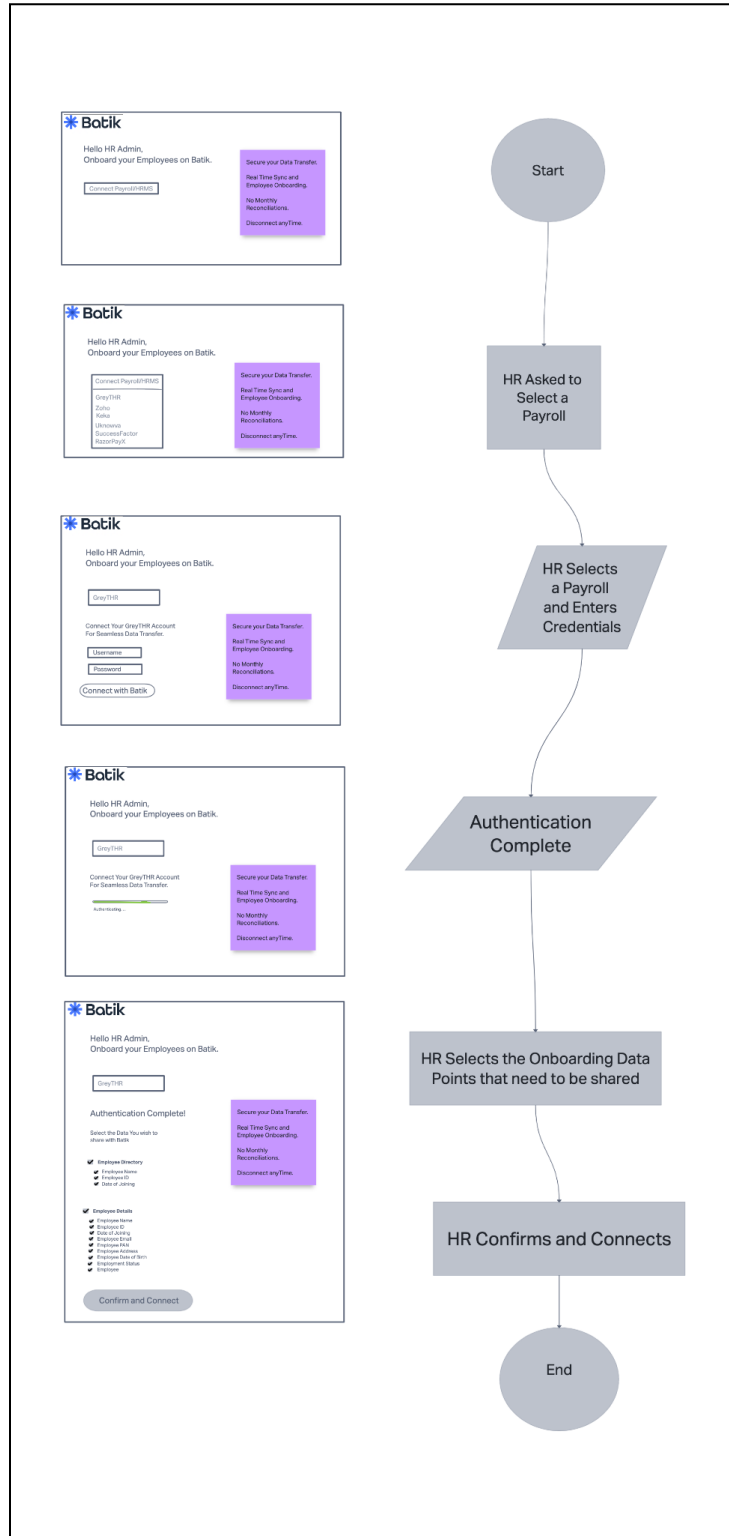


Fig. 3.2 Flow Chart explaining the working of NodesAPI

The TartanNodes API may be quickly added to PlumHQ's system once Ema discovers that Company X supports Razorpay. Ema can then log in with her username, password, and API key, and the data for her firm will immediately sync with PlumHQ. Ema and her business save time thanks to this connection, which also makes sure that the data is delivered safely. One of the main advantages of TartanNodes is that it saves time and money for HR teams by doing away with the requirement for manual data transfer and reconciliation.

TartanNodes enables PlumHQ to access Company X's personnel data in real-time. It is a more effective and dependable solution since data is exchanged safely and securely in real-time over a single API. Businesses may still utilise TartanNodes to exchange data with outside suppliers and service providers while also selecting the optimal payroll integration from a selection of 10 options that best fit their needs.

3.1.2 Nodes API Features

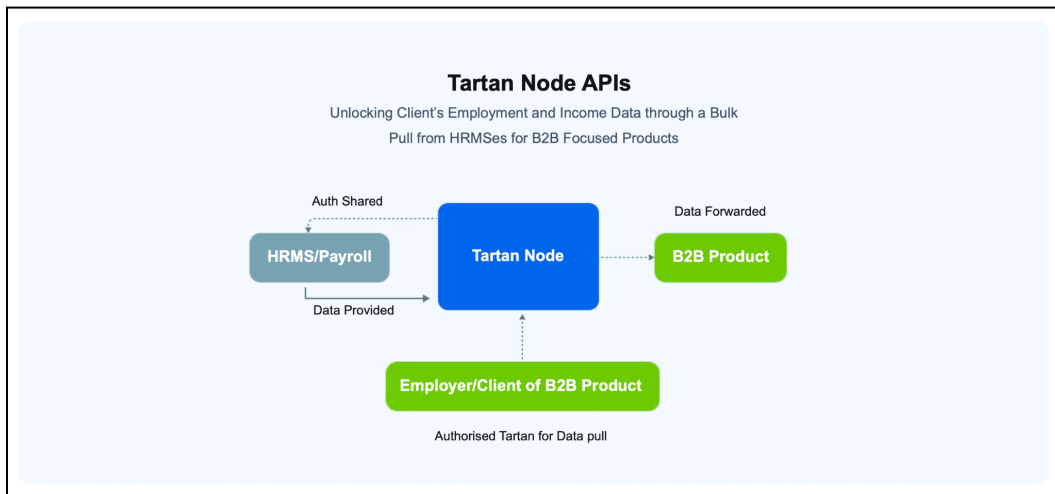


Fig. 3.3 Flow Chart explaining the working of NodesAPI

1. Customizable Access Controls: TartanNodes offers a customised access control system that enables businesses to provide or limit access to particular data fields or modules in accordance with their requirements. By ensuring that only essential and pertinent information is shared with third-party suppliers, this feature increases the security of the data.

2. Data Mapping and Transformation: TartanNodes provides data transformation features that enable businesses to effortlessly transfer data fields from their payroll or HRMS system to third-party platforms. This feature lowers the possibility of mistakes or data corruption by ensuring that data is transported across systems reliably and consistently.

3. Real-time Data Sync: Data is updated in actual time across all systems thanks to TartanNodes' real-time data syncing capabilities, which do away with the requirement for manually updating or reconciliation. For businesses that rely on data-driven choices, this feature guarantees that the data is always correct and up-to-date.

4. Easy Integration: TartanNodes provides simple third-party system integration, making it quick and simple to set up and utilise. The time and resources needed to link payroll and HRMS systems with outside suppliers and service providers are decreased by this functionality.

5. Advanced Reporting: TartanNodes provides extensive reporting features that let businesses create customised reports based on particular data fields or modules. In order to help businesses make better decisions, this tool gives them more access and insights on their HR and payroll data.

6. Audit Trail: TartanNodes offers an audit trail that keeps account of all data transfers and system modifications. By ensuring that every data transmission is

traceable and auditable, this feature adds an extra degree of compliance and safety.

7. Scalability: TartanNodes is made to be extremely scalable, which enables it to serve several concurrent users and enormous amounts of data. TartanNodes are a long-term and sustainable solution because of this aspect, which guarantees that it may expand and scale with the demands of the business.

8. Multi-Tenant Architecture: Multiple businesses can utilise the same instance of the programme because to TartanNodes' multi-tenant design, which ensures that data security and privacy are not jeopardised. With the help of this capability, businesses may exchange data more easily and affordably with other suppliers and service providers.

9. API Documentation and Support: TartanNodes offers thorough documentation for the API and support, which makes it simple for developers to connect the programme with their individual systems. With the help of this functionality, businesses can quickly and easily start using TartanNodes without having to invest a lot of time or money in integration and development.

3.2 Research and Analysis for TartanNodes API Development

As an intern on the TartanNodes project, I did a lot of market research to determine the demands and problems the API should solve. In order to acquire information from potential customers, the research phase used qualitative as well as quantitative methods, including user surveys and interviews.

3.2.1 Research

User Interviews:

I spoke with system administrators and HR specialists in a number of interviews to gain insight into the requirements and difficulties of potential users. In order to comprehend the main challenges they have while managing employee data and connecting HRMS systems with outside vendors and service providers, I created interview questions. The interviews improved my understanding of the market environment and the demand for an efficient method of managing personnel data.

Competitive Analysis:

In order to find market gaps TartanNodes may fill, I examined and assessed numerous HRMS systems and outside providers during the competitive analysis phase. I examined each solution's capabilities, drawbacks, and features to get a thorough picture of the market environment. The investigation revealed that several current solutions required tedious and laborious data entry and administration since they could not easily interact with other suppliers and service providers. By offering an easier approach that would streamline the integrating process and lessen the effort for HR staff, TartanNodes hoped to close this gap. TartanNodes was created to be adaptable and configurable to match the particular demands of each organisation, in contrast to many other solutions that were limited in their capacity to customise and adapt to those needs.

User Surveys:

I performed surveys in addition to user interviews to get quantitative data and confirm the results of the interviews. I created a poll that included questions about the organization's existing HRMS system, the challenges HR teams encounter,

and what capabilities they would want to see in an API that connects HRMS systems with outside suppliers and service providers. To acquire a variety of insights, the survey was sent out to system administrators and HR specialists in several businesses



Fig. 3.4 Competitive Analysis for NodesAPI

Tartan Nodes User Survey

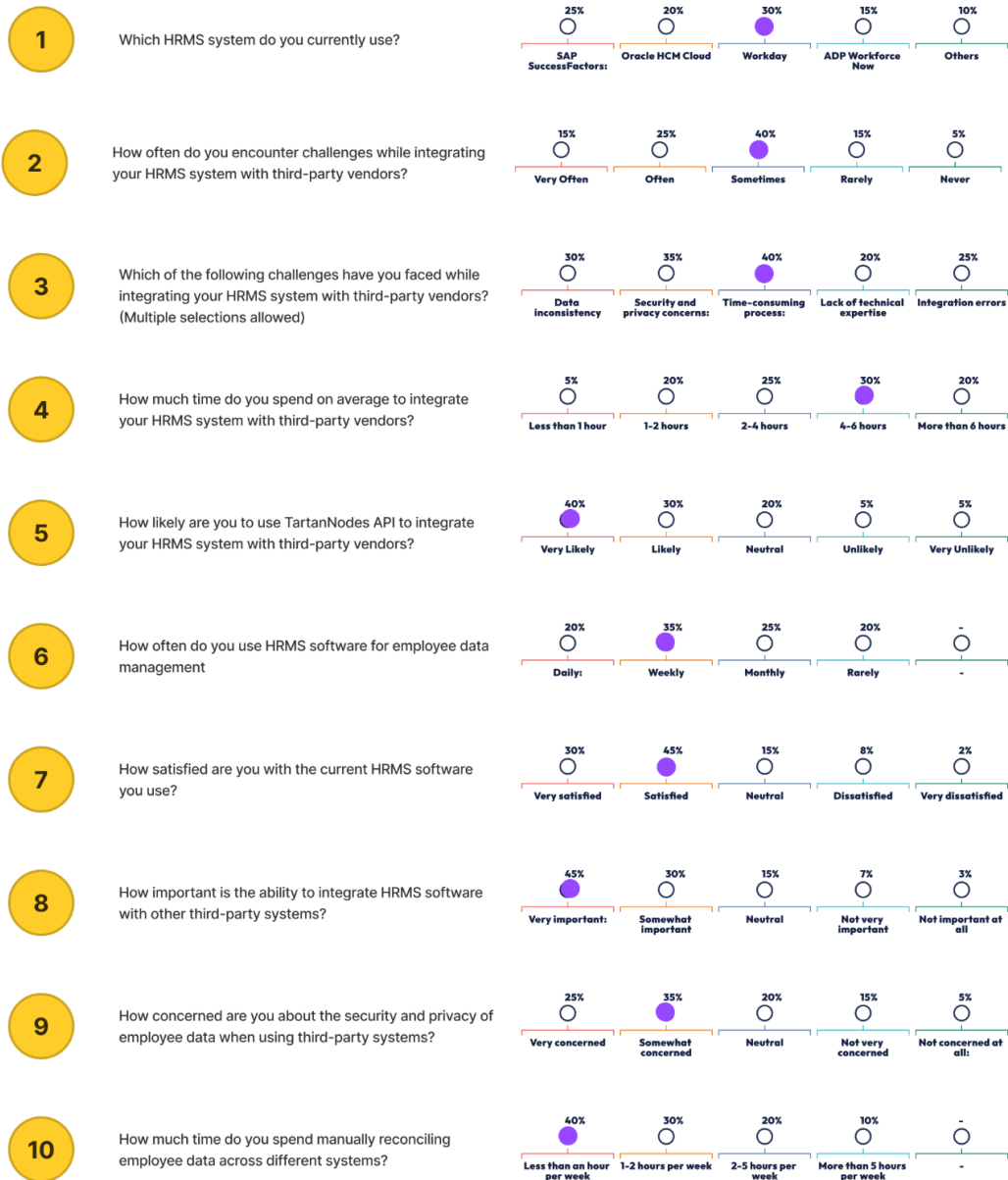


Fig. 3.5 User Survey Results for NodesAPI

3.2.2 Research Conclusions

There are a number of inferences that can be made regarding the market demands and pain issues that TartanNodes API wants to address based on the user survey and competitor study. Several important conclusions include:

1. The management of employee data across several HRMS systems and outside suppliers is something that HR managers are searching for in a simplified and automated manner.
2. Data inconsistencies and increased effort for HR teams result from manual reconciliation and data transmission, which takes time and is prone to errors.
3. While allowing third-party vendors and service providers easy access, HR teams want to guarantee the security and privacy of employee data.
4. In order to guarantee that employee data is safe and that only authorised parties have access to it, there is a need for a two-way consent system that provides for consent at both the HR and employee level.

Prioritising these market demands and pain areas will enable TartanNodes API to create new features and capabilities that solve them. This can entail improving security and privacy protections further, connecting with more HRMS systems and outside providers, and offering more powerful data management and analytics tools. It will also be crucial to keep getting user input and iterate the API in response to their requirements and preferences.

3.2.3 Suggested Features after Research

I presented the TartanNodes development team with the following features after completing user surveys and competitive analysis:

1. Bulk Data Transfer: The capacity to automate the transfer of data in bulk, doing away with the need for manual data transfer and reconciliation, saving HR teams considerable time. The effort of HR personnel may be significantly reduced by this function, allowing them to concentrate on other crucial responsibilities.
2. Real-time Data Updates: The capacity to bulk-onboard client data and services. This feature makes it simpler for businesses to develop their business by enabling quicker and more effective onboarding of additional services and client data.
3. Two-Way Consent Mechanism: Giving suppliers access to real-time data changes so that the data is constantly current. This function guarantees suppliers have access to the most recent information, which can enhance the precision and effectiveness of their offerings.
4. Secure Data Transfer: This two-way consent approach enables employee and human resources (HR) consent. This gives workers more control over their personal information while ensuring that employee data is safe and that only authorised parties have access to it.
5. EMI Deduction at Source: A safe data transmission that makes sure that data is delivered securely and using encryption, guarding it against any cyber attacks. Maintaining the confidentiality and privacy of employee data, which is a high priority for many organisations, depends on this functionality.

3.3 Design System

Following the completion of the user survey and competitive research, it was obvious that TartanNode needed to update its design system in order to improve

user experience and satisfy changing consumer demands. I collaborated closely with the design team to create Tart Design System 2.0, the new design system for Tartan.

Design systems are a group of reusable parts, rules, and documentation that direct the creation of goods, services, and digital experiences. They lay out the guidelines and best practises for developing user interfaces that are reliable, adaptable, and consistent. Design systems have gained popularity recently as businesses realise their worth in enhancing productivity, teamwork, and user experience.

For businesses of all sizes and in all sectors, design systems have several advantages. These advantages consist of:

1. Consistency: Consistency is one of the key advantages of design systems. Design systems make guarantee that all goods and services inside an organisation are uniform in terms of their appearance, user experience, and brand identification by developing a common design language and set of principles. Consistency fosters user trust, enhances usability and accessibility, and gives the company a more polished and professional appearance.
2. Efficiency: By simplifying the design and development process, design systems also aid in increasing efficiency. A set of already constructed elements and template enables designers and developers to work more quickly and effectively, cutting down on the time and resources needed to create new goods and services. This helps to prevent duplication of work, minimise mistakes, and ensure that designs stay the same across teams and projects.

3. Collaboration: Design systems encourage cross-team and cross-departmental cooperation. Design systems facilitate communication and cooperation between designers, developers, and other stakeholders by developing a shared set of norms and standards. Since everyone is operating with the same set of presumptions and objectives, this can aid in raising the quality of the finished output.
4. Scalability: Scalability is another advantage of design systems. Design systems aid in ensuring that the design and development process stays effective and standardised as organisations expand and their product and service offerings grow more complicated. Design systems guarantee that goods and services can be quickly expanded and modified to suit changing demands by offering a framework for developing new components and templates.
5. Accessibility: Design methodologies aid in making goods and services accessible to all people, including those with impairments. Organisations may guarantee that their goods and services are useable by a larger variety of users, such as those with auditory, visual, motor, and cognitive limitations, by including accessibility principles and best practises into the design system.

3.3.1 Tart Design System 2.0

The most recent version of TartanNode's design system, Tart Design System 2.0, was updated to offer a more simplified and effective design process. A group of designers and developers, comprising me, undertook the redesign with the goal of developing an integrated and thorough design system.

A unified and uniform user experience across all of TartanNode's services and products was the aim of the Tart Design System 2.0. The prior design system had

weak coherence and was out of date, which led to inconsistent design and functioning.



Fig. 3.6 Tart Design System 2.0

Before starting the redesign, we thoroughly examined the current design system and determined which aspects need modification. To make sure the new design system was current and pertinent, we also looked at industry best practises and new design trends. Our first step involved formulating an extensive design language that encompassed aspects like font decisions, selection of color schemes as well as employing iconography strategically. While designing this language for TartanNodes varied requirements was our priority; we also ensured that it remained easy to understand yet flexible enough for adaptability purposes.

After establishing this foundation of principles/ideals for designing experiences; we moved on to develop specific sets of policies/templates that could be applied throughout the companys offerings. These guidelines were constructed after taking user experience into account aiming to provide users with a reliable and straightforward experience across all platforms/devices. Lastly we prioritized gathering feedback from our users to better understand their requirements/interests and liked/disliked trends, which helped us in providing more personalized design experiences catering to their needs.

The Tart Design System 2.0 has proven to be a successful venture, as users are enjoying a more cohesive and standardized design experience. The redesign has sped up and improved design iterations while also helping to simplify the design process. Additionally, it has aided in raising customer happiness and engagement, which has led to a rise in the usage of TartanNode's goods and services.

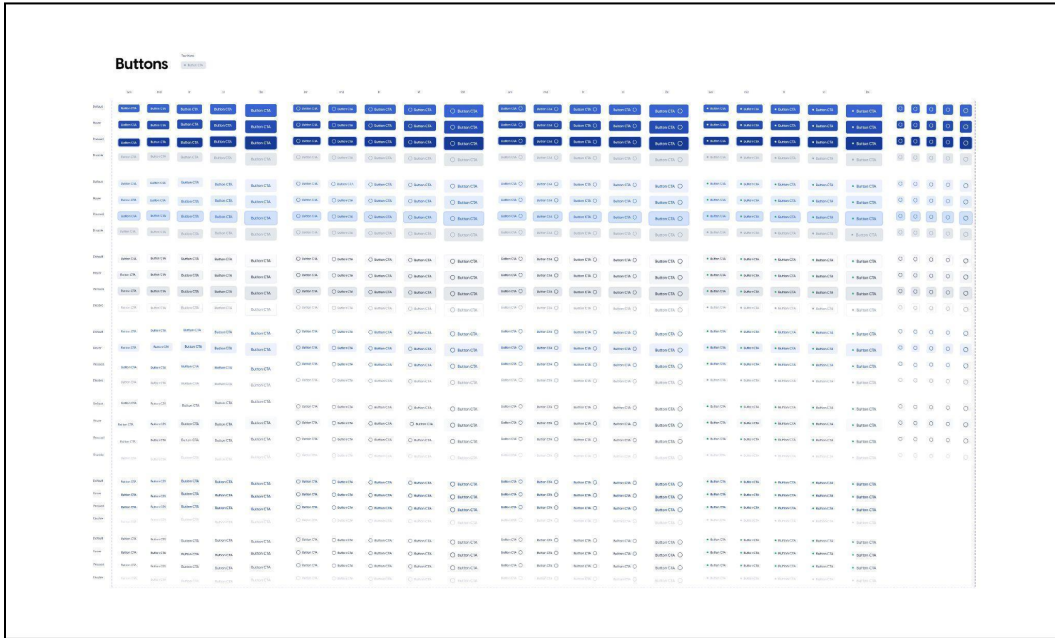


Fig. 3.7 Button System of Tart Design System 2.0

The complete button system offered by The Tart Design System 2.0 has been thoughtfully created to deliver an identical and easy to use experience across all devices. The system comes with a selection of button designs, sizes, and hues that can be quickly altered to suit the demands of every project. The versatility of the Tart Design mechanism 2.0 button mechanism is one of its main advantages. The system has a variety of button kinds, each with a unique look and purpose, including primary, secondary, tertiary, and destructive buttons. As a result, designers may select the best button style for each use scenario, resulting in buttons that are both aesthetically pleasing and practically useful.

The Tart Design System 2.0 button system also offers a variety of button sizes to meet a variety of requirements. The system provides block-level buttons that may span a container's width, as well as tiny, medium, and big buttons. With this level of personalization, buttons are guaranteed to be the right size for their intended usage and to blend in with any design.

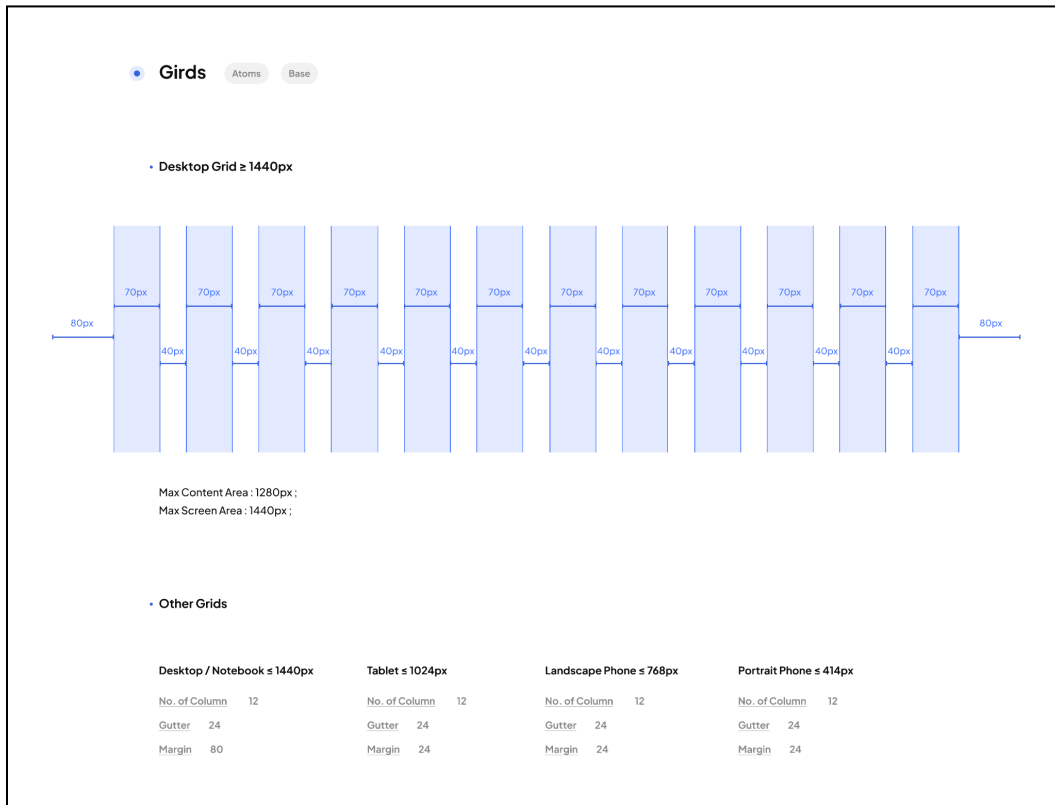


Fig. 3.8 Grid System of Tart Design System 2.0

Any design system must include a grid system, and the Tart Design System 2.0 is no different. It is simpler to develop a unified and uniform visual design when using the grid system since it offers a foundation for organising and arranging material on a page.

The grid structure of the Tart Design structure 2.0 is based on a 12-column layout. The grid system is particularly helpful for developing responsive designs that adjust to different screen sizes and devices. This means that the material on the

The colour scheme of The Tart Design System 2.0 is a thoughtfully created and intended component of the overall design system. A variety of primary, secondary, and neutral colours make up the colour pallet, which is utilised regularly across the system.

The interface's most significant components and functions, such buttons and links, are represented by the primary colours. The user's attention is drawn to the most crucial areas of the page by these colours' boldness and brightness. The secondary colours are utilised to provide the primary colours a visual contrast while maintaining the general feel and style of the system. Supporting components such as form inputs and icons are shown using these colours. Finally, the neutral hues act as a background, allowing the other hues to stand out. Backgrounds, borders, and other subdued design elements are done in these colours to help bring everything together.

Consistency is one of the main advantages of having a clearly established colour scheme in a design system. It establishes a feeling of cohesion and aids in building brand awareness when all interface components have the same colour. Accessibility is another advantage of a clearly defined colour scheme. It guarantees that users with visual impairments may still use the system efficiently by selecting colours that are highly visible and have good contrast ratios.

CHAPTER 4: RESULT AND ANALYSIS

When several third-party systems must be interconnected, designing the user interface for a combined product may be difficult. Nevertheless, it may also be a fascinating chance to give customers a seamless experience across many platforms. We will go over the design approach and outcomes of merging TartanNodes with two well-liked payroll administration systems, Batik and Mint Salary, in this part.

An examination of Batik and Mint Salary's current user interfaces served as the starting point for the design process. In order to find any shared components that we may employ in the TartanNodes integration, we examined the layout, colour palettes, typography, and patterns of interaction applied in these platforms. This study made it possible for us to make sure that the combined design adhered to the two systems' respective design languages and user expectations.

Next, we worked on creating the user interface for the TartanNodes integrating. We concentrated on developing an easy-to-use user interface that would let users effortlessly switch between the two platforms and complete the required activities. The branding of TartanNodes was included into the design, but it was also made sure that it did not compete with the branding of the other systems. We created displays that demonstrated how the user would choose the payrolls and enter additional pertinent information, like employee and payment information. The goal of the design was to make it as easy as possible for the end-user to integrate TartanNodes with Batik and Mint Salary. With concise instructions for each activity, the design was simplified and optimised for use. To aid users through the procedure, we have added useful tooltips and prompts..

After the design was finished, we tested the integration using real users to make sure everything worked as intended. A team of HR experts that were acquainted

with both Batik and Mint Salary participated in the testing. The TartanNodes integration was used to ask the users to complete a series of activities, and their response was captured.

We tweaked the design a bit to make it more user-friendly based on user input. For instance, to make it simpler for users to understand what information was necessary, we added more illustrative labels to the different input forms. To help people through the procedure, we included more tooltips and prompts. Overall, people liked the integration design since they considered it to be simple and straightforward to use. The design made sure that the integration process was smooth and efficient, allowing HR professionals to concentrate on their primary duties without being distracted by clerical work.

4.1 Design screens for MintSalary

The payroll selection screen is the first screen of our integrated solution for Mint Salary. Users can select the specific paycheck they wish to access on this screen. The user is sent to the login screen after selecting payroll, where they may input their login information to access the system.

After logging in, the user is presented with a loading screen that informs them that data is currently being sent. The user is informed by this crucial feature that the system is actively trying to retrieve data. The user is then asked for the appropriate rights to access the employee data when the data has been obtained. By limiting access to just those people who have permission, this permission screen protects the security and privacy of employee data.

The user is then sent to the employee directory page, which gives a list of all the employees on the specified payroll, after giving rights. The user may search and filter personnel using the options on this screen.

The user is then sent to the employee information page after selecting an employee. This page gives a thorough overview of the employee's data, including contact information, employment information, and salary information.

Overall, by offering a user-friendly, straightforward, and effective interface, our integrated product with Mint Salary accelerates the process of obtaining and managing employee data.

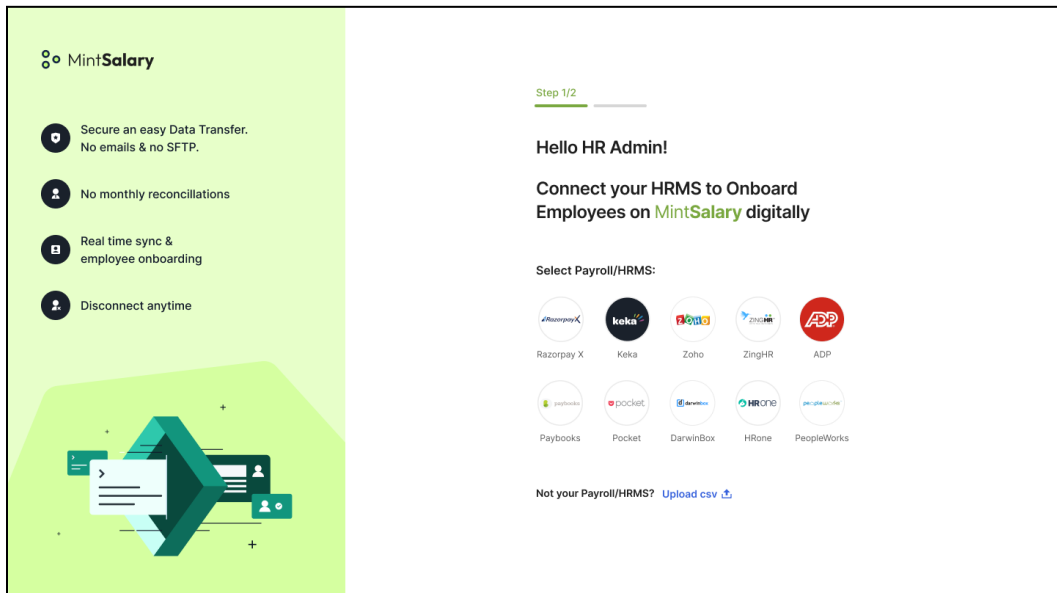


Fig. 4.1 Payroll Selection Screen for MintSalary

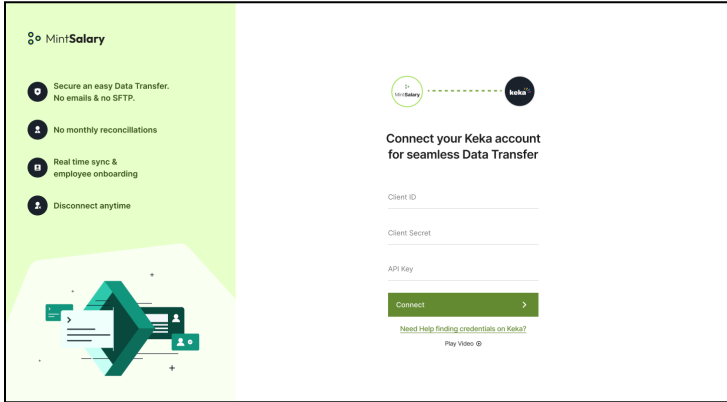


Fig. 4.2 Credential Screen for MintSalary

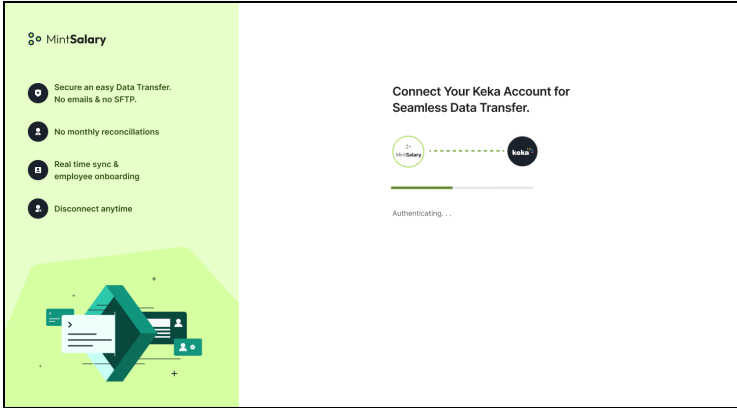


Fig. 4.3 Data Transfer Screen for MintSalary

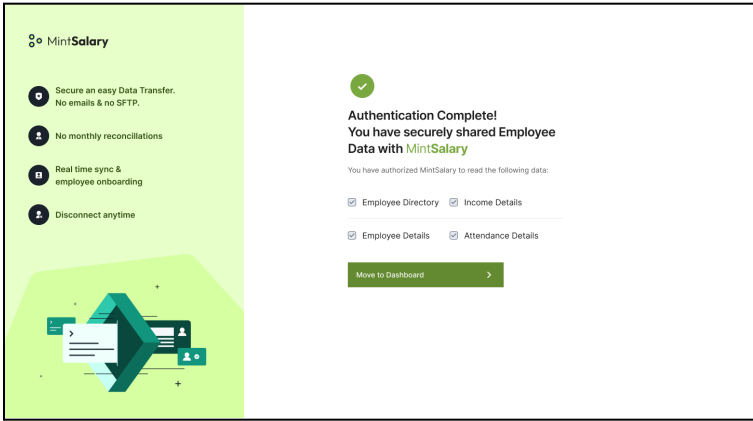
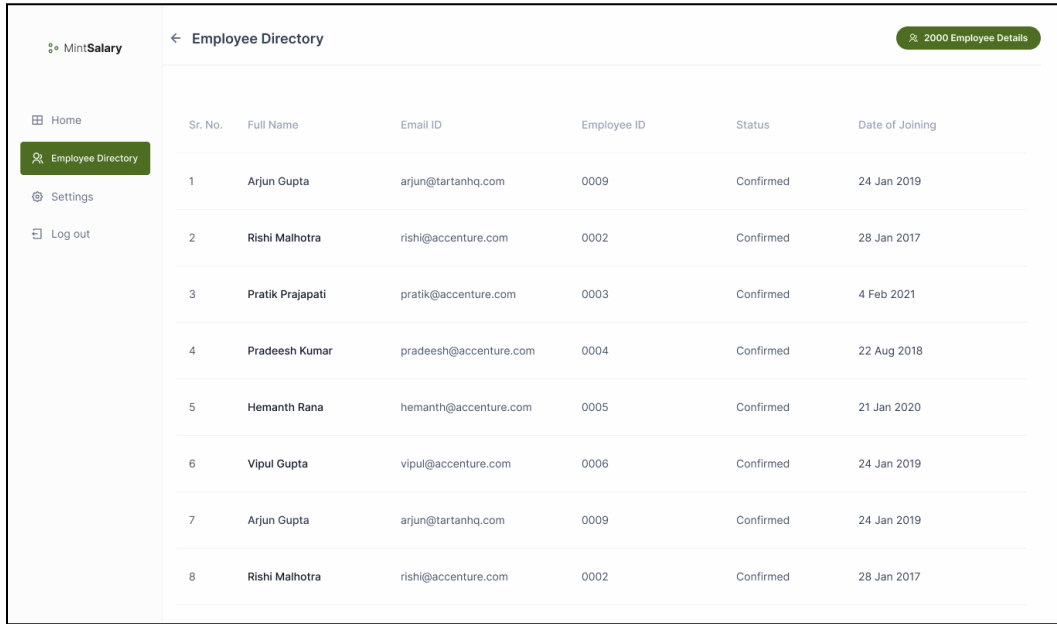


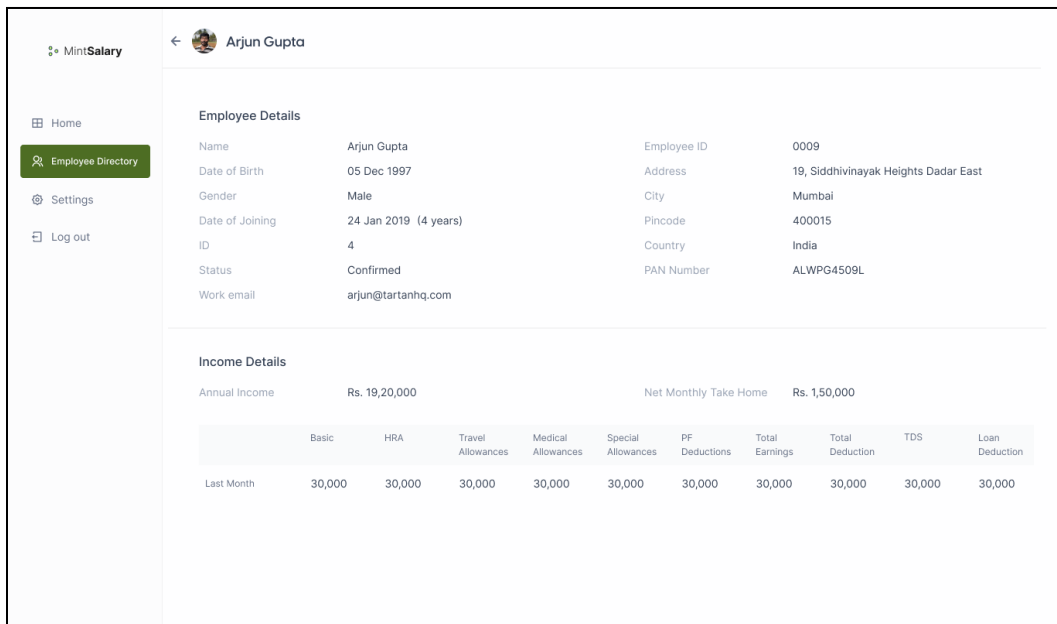
Fig. 4.4 Permissions Screen for MintSalary



The screenshot shows the 'Employee Directory' page in the MintSalary application. It features a sidebar with navigation options: Home, Employee Directory (highlighted), Settings, and Log out. The main content area displays a table with 8 rows of employee data. A '2000 Employee Details' badge is visible in the top right corner.

Sr. No.	Full Name	Email ID	Employee ID	Status	Date of Joining
1	Arjun Gupta	arjun@tartanhq.com	0009	Confirmed	24 Jan 2019
2	Rishi Malhotra	rishi@accenture.com	0002	Confirmed	28 Jan 2017
3	Pratik Prajapati	pratik@accenture.com	0003	Confirmed	4 Feb 2021
4	Pradeesh Kumar	pradeesh@accenture.com	0004	Confirmed	22 Aug 2018
5	Hemanth Rana	hemanth@accenture.com	0005	Confirmed	21 Jan 2020
6	Vipul Gupta	vipul@accenture.com	0006	Confirmed	24 Jan 2019
7	Arjun Gupta	arjun@tartanhq.com	0009	Confirmed	24 Jan 2019
8	Rishi Malhotra	rishi@accenture.com	0002	Confirmed	28 Jan 2017

Fig. 4.5 Employee Directory Page Design



The screenshot shows the 'Employee Details' page for Arjun Gupta. It features a sidebar with navigation options: Home, Employee Directory (highlighted), Settings, and Log out. The main content area is divided into two sections: 'Employee Details' and 'Income Details'.

Employee Details

Name	Arjun Gupta	Employee ID	0009
Date of Birth	05 Dec 1997	Address	19, Siddhivinayak Heights Dadar East
Gender	Male	City	Mumbai
Date of Joining	24 Jan 2019 (4 years)	Pincode	400015
ID	4	Country	India
Status	Confirmed	PAN Number	ALWPG4509L
Work email	arjun@tartanhq.com		

Income Details

Annual Income	Rs. 19,20,000					Net Monthly Take Home	Rs. 1,50,000			
	Basic	HRA	Travel Allowances	Medical Allowances	Special Allowances	PF Deductions	Total Earnings	Total Deduction	TDS	Loan Deduction
Last Month	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000

Fig. 4.6 Employee Details Page Design

4.2 Integrated Design screens for Batik

I created screens for the Batik integration that have a similar flow to the Mint Salary integration. The user can choose the payroll they wish to examine on the first screen. In order to confirm their credentials, customers are subsequently sent to a login screen. A loading screen displays after logging in as data is sent to the TartanNodes system. The user is then asked if they want TartanNodes to have access to their data. The user may view every employee connected to the chosen payroll on the employee directory page. The employee details page, which is the last stop, offers comprehensive facts on an individual employee, including their personal information, salary history, and more.

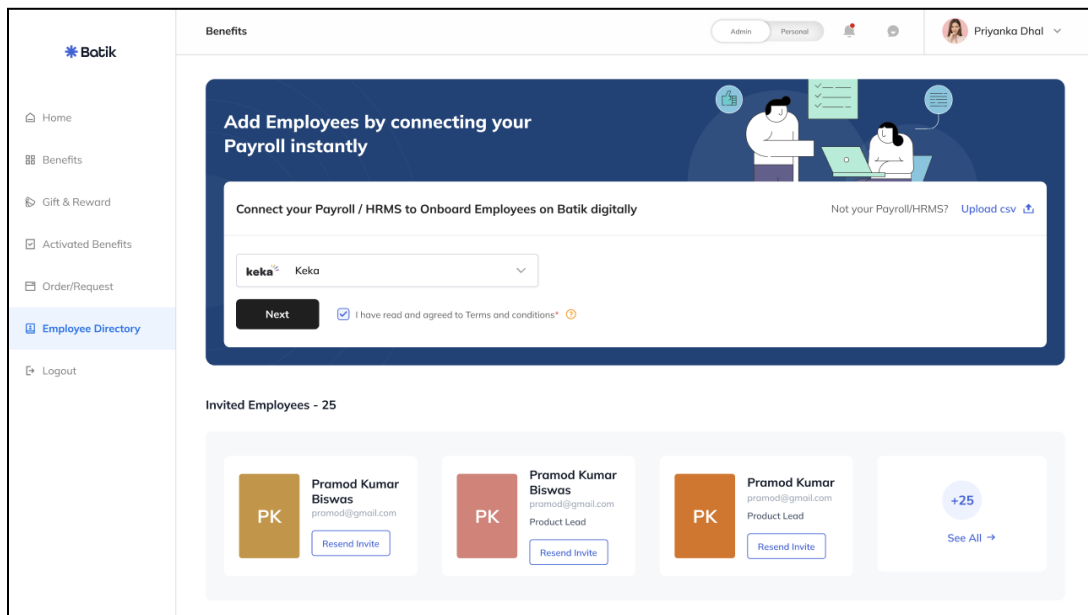


Fig. 4.7 Payroll Page Design for Batik

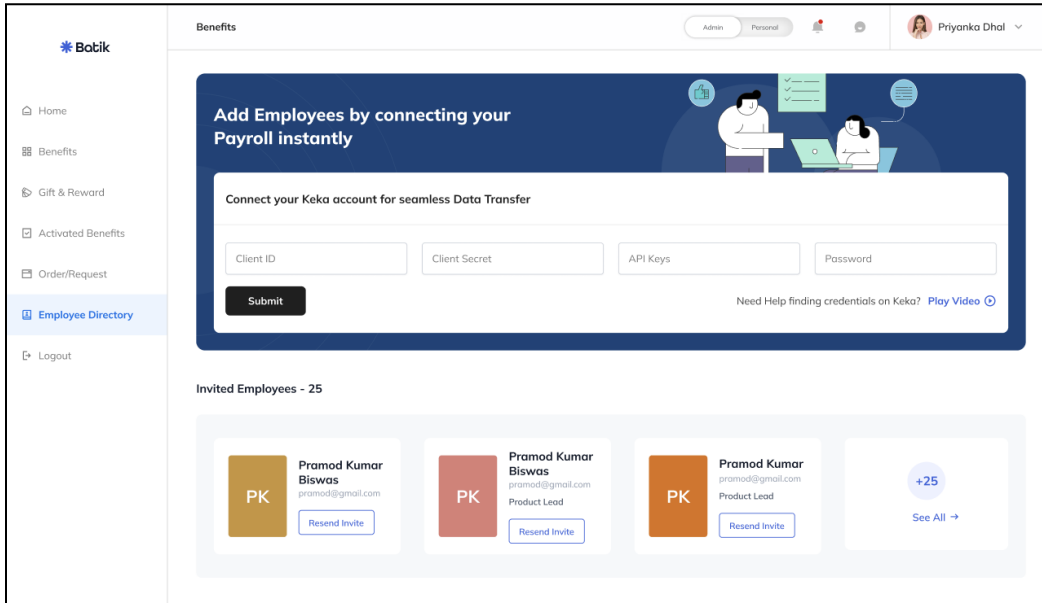


Fig. 4.8 Credentials Login Page Design

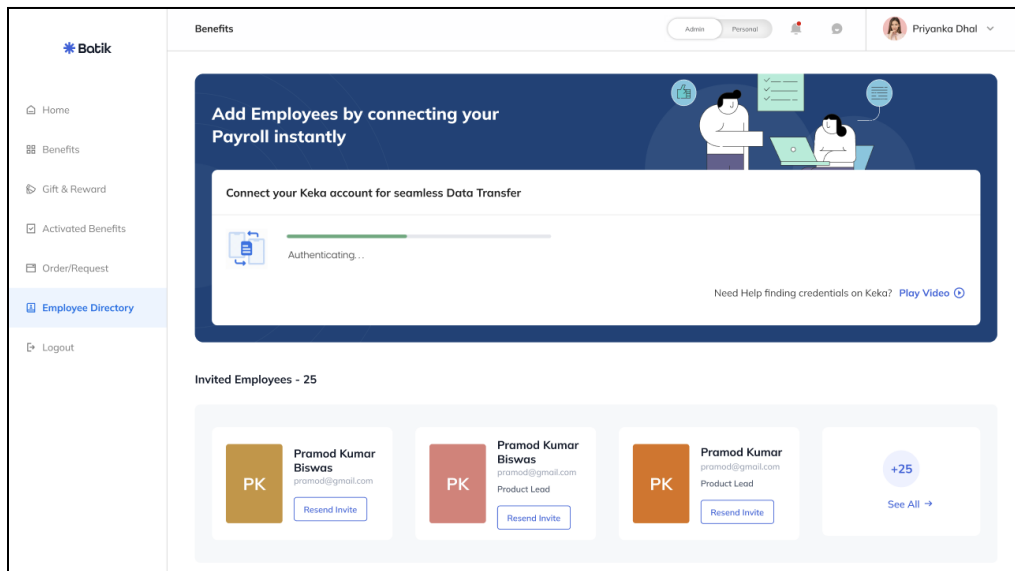


Fig. 4.9 Authentication Page Design

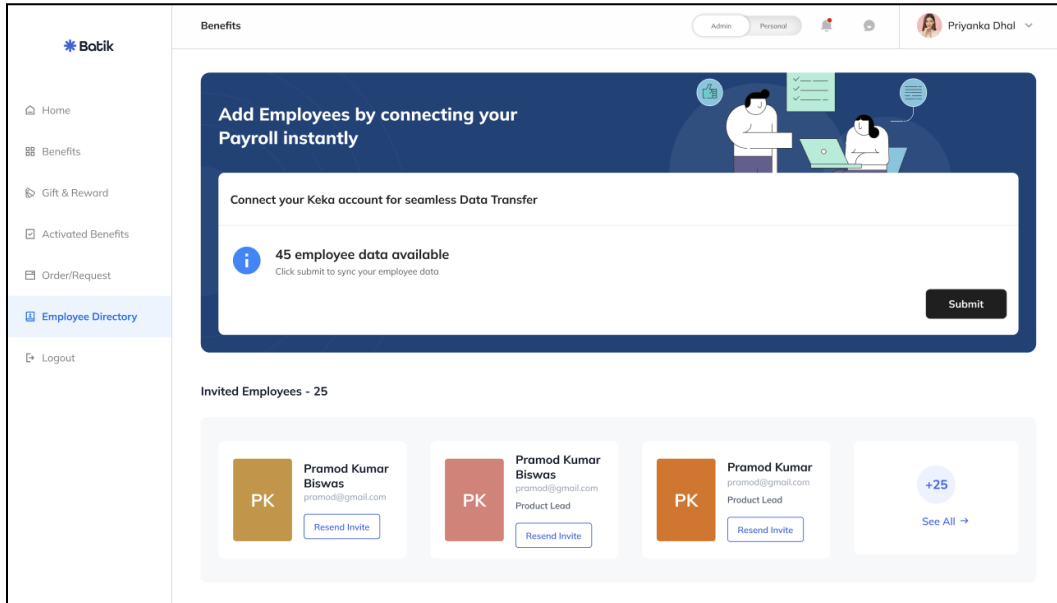


Fig. 4.10 Confirm to Sync Page Design

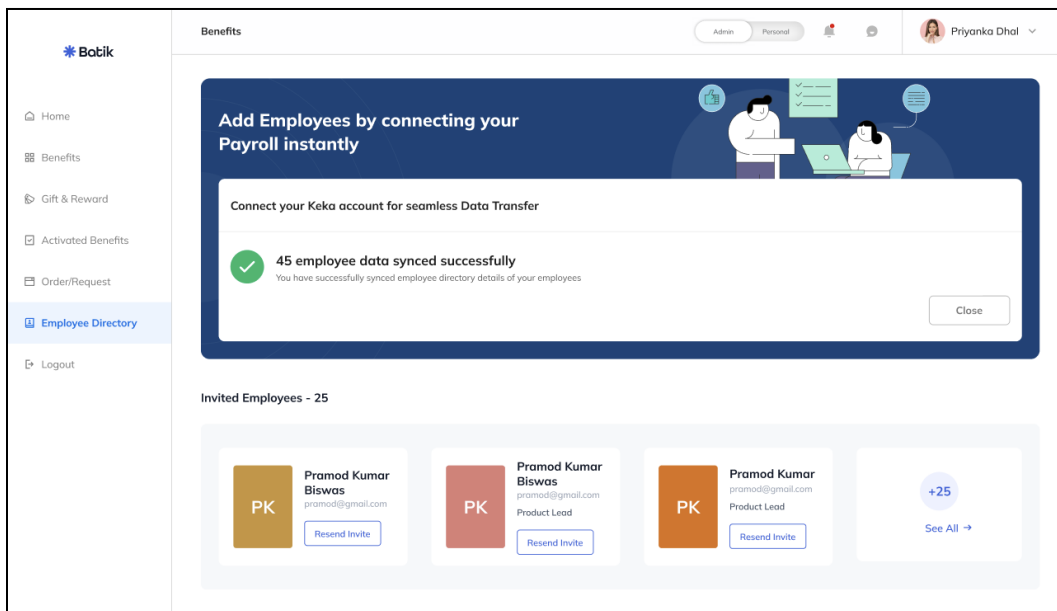


Fig. 4.1 Sync successful Page Design

CHAPTER 5: CONCLUSIONS

5.1 Conclusions

I got the chance to work on the TartanNodes API, a potent tool that may assist HR teams manage employee data more effectively, during my product design internship. Through this experience, I learnt important lessons about the design process, the value of user-centered design, and how to develop powerful design systems.

The value of user-centered design was one of the project's main lessons. I often asked HR professionals for their opinions and comments throughout the design process to make sure the finished product reflected their preferences and needs. Users were at the centre of the design process, which allowed us to produce a tool that genuinely satisfies their needs and increases their productivity. The importance of developing a strong design system was another crucial lesson. We were able to maintain consistency and harmony across all components of the interface by creating a complete framework that included everything from typography to colour palettes. This not only enhances the user experience but also helps TartanNodes stand out from rivals and build brand awareness.

Along with these more general lessons, this endeavour helped me hone a number of particular talents. I learned how to build high-fidelity wireframes and prototypes, for instance, which let us test the user interface and make incremental adjustments. I also learnt the value of inclusive design and accessibility in making sure that everyone, regardless of ability, could use the tool.

I am happy with the results of this endeavour when I look back on it. We created a strong tool via teamwork that HR teams can use to better and more effectively manage employee data. We were able to develop a tool that is both practical and

aesthetically beautiful by concentrating on user-centered design and developing a thorough design framework.

I'll take what I've learned from this project and apply it to future projects as I advance in my career as a product designer. I think I can make even more useful and significant products if I place consumers at the centre of the design process and concentrate on developing strong design systems.

Overall, working on the TartanNodes API has been a good experience for my development as a designer. I received practical experience in all facets of the design process with this project, from research and wireframing through prototyping and user testing. I can't wait to use these abilities in my future work to continue developing unique and useful items.

5.2 Future Aspect

The TartanNodes API is continually growing and improving, thus there are a number of potential future developments and areas of work that may be investigated to enhance the product even more. A few of these are:

1. **Additional Integrations:** The TartanNodes API may still be integrated with more systems, in addition to the well-known payroll administration systems Batik and Mint Salary, with which it is presently compatible. The viability of integrating with other well-known payroll systems might be investigated by conducting research to find them.
2. **Enhanced Security Features:** Security is crucial for any system that handles sensitive data. To further guarantee the privacy and security of employee data, TartanNodes API could investigate additional security features like two-factor authentication.

3. Improved User Experience: Although the TartanNodes API's present design is functional, there may be chances to make it more user-friendly and intuitive. To pinpoint problems and potential areas for improvement, user testing and feedback might be obtained
4. Customization Options: TartanNodes API modification features, such as the capability to add custom fields or modify the user interface to better meet the needs of the firm, may be desired, depending on the demands of the business.
5. Analytics and Reporting: Having access to analytics and reporting features through the TartanNodes API may be a useful tool for businesses trying to understand their payroll data. This might include information on staff retention rates, payroll cost breakdowns, and other helpful indicators.
6. Mobile Optimization: With the growing popularity of mobile devices, TartanNodes API might benefit from being optimised for mobile use. This can comprise a mobile app or a web interface designed for mobile devices.
7. Expansion into Other Markets: TartanNodes API was created with the Indian payroll industry in mind, but there may be chances to extend into other markets with comparable demands. This can entail investigating the payroll requirements of different nations and modifying the system accordingly.
8. Improved Documentation and Support: Ensuring that businesses can uefficiently may be achieved by providing thorough documentation and assistance. User guides, instructional videos, and a devoted support staff might all fall under this category.

In general, TartanNodes API has a bright future with lots of room for growth and improvement. TartanNodes may continue to offer a useful and dependable service for years to come by continuing to pay attention to client demands and staying in front of trends and advances in the payroll administration market.

References

- [1] Joo, H.. (2017). A study on understanding of UI and UX, and understanding of design according to user interface change. *International Journal of Applied Engineering Research*. 12. 9931-9935.
- [2] A. Wijaya, Kefry, W. Wihalim and A. A. Santoso Gunawan, "The Effect of UI/UX Design on User Satisfaction in Online Art Gallery," 2021 1st International Conference on Computer Science and Artificial Intelligence (ICCSAI), Jakarta, Indonesia, 2021, pp. 120-125, doi: 10.1109/ICCSAI53272.2021.9609764.
- [3] Nugraha, Isnan & Fatwanto, Agung. (2021). User Experience Design Practices in Industry (Case Study from Indonesian Information Technology Companies). *Elinvo (Electronics, Informatics, and Vocational Education)*. 6. 49-60. 10.21831/elinvo.v6i1.40958.
- [4] Ravasi, Davide & Stigliani, Ileana. (2012). Product Design: A Review and Research Agenda for Management Studies. *International Journal of Management Reviews*. 14. 10.1111/j.1468-2370.2012.00330.x.
- [5] Kreger, Alex. (2023). User Experience Design in Banking is Used to Make Digital Products Outcompeting. 10.13140/RG.2.2.29939.20002.