

Case study

# Invoicing area Design

Sage

Role  
Principal Product Designer

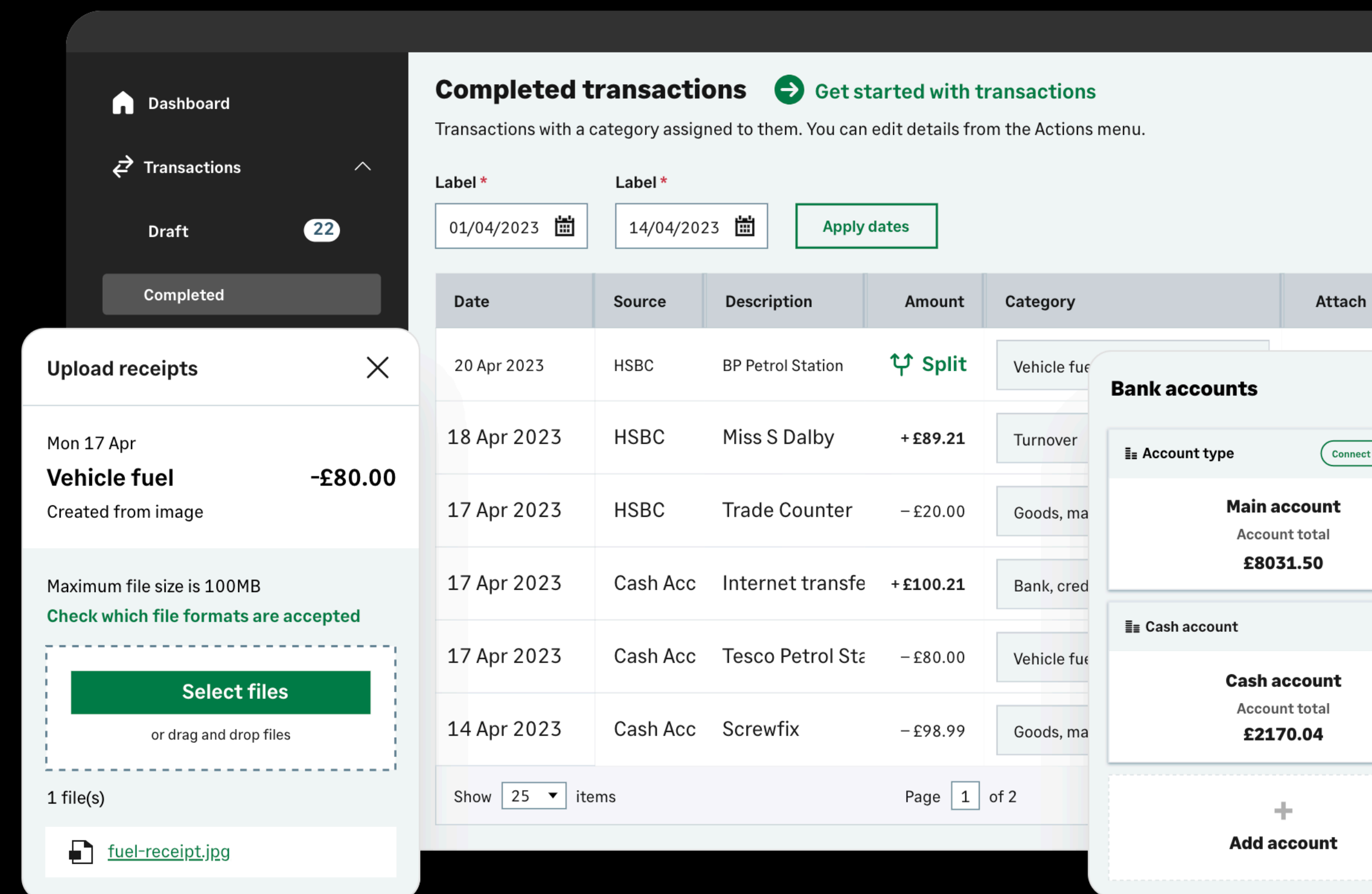
Year  
2025



Context

# Sage Individual aims to simplify accounting software for self-employed sole traders.

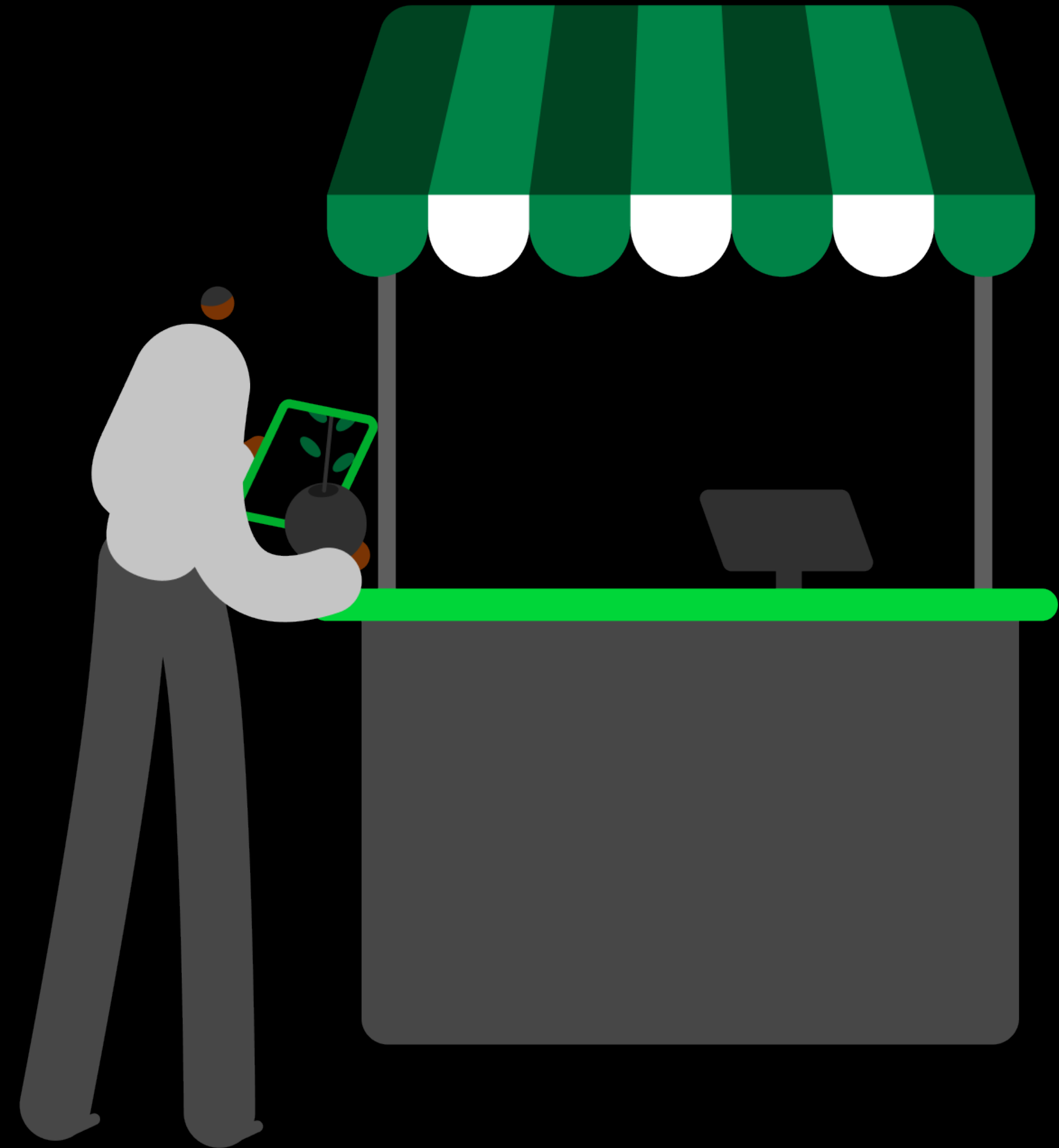
## A cloud solution that simplifies financial management by offering clear visibility into cash flow and reducing administrative tasks.



Context

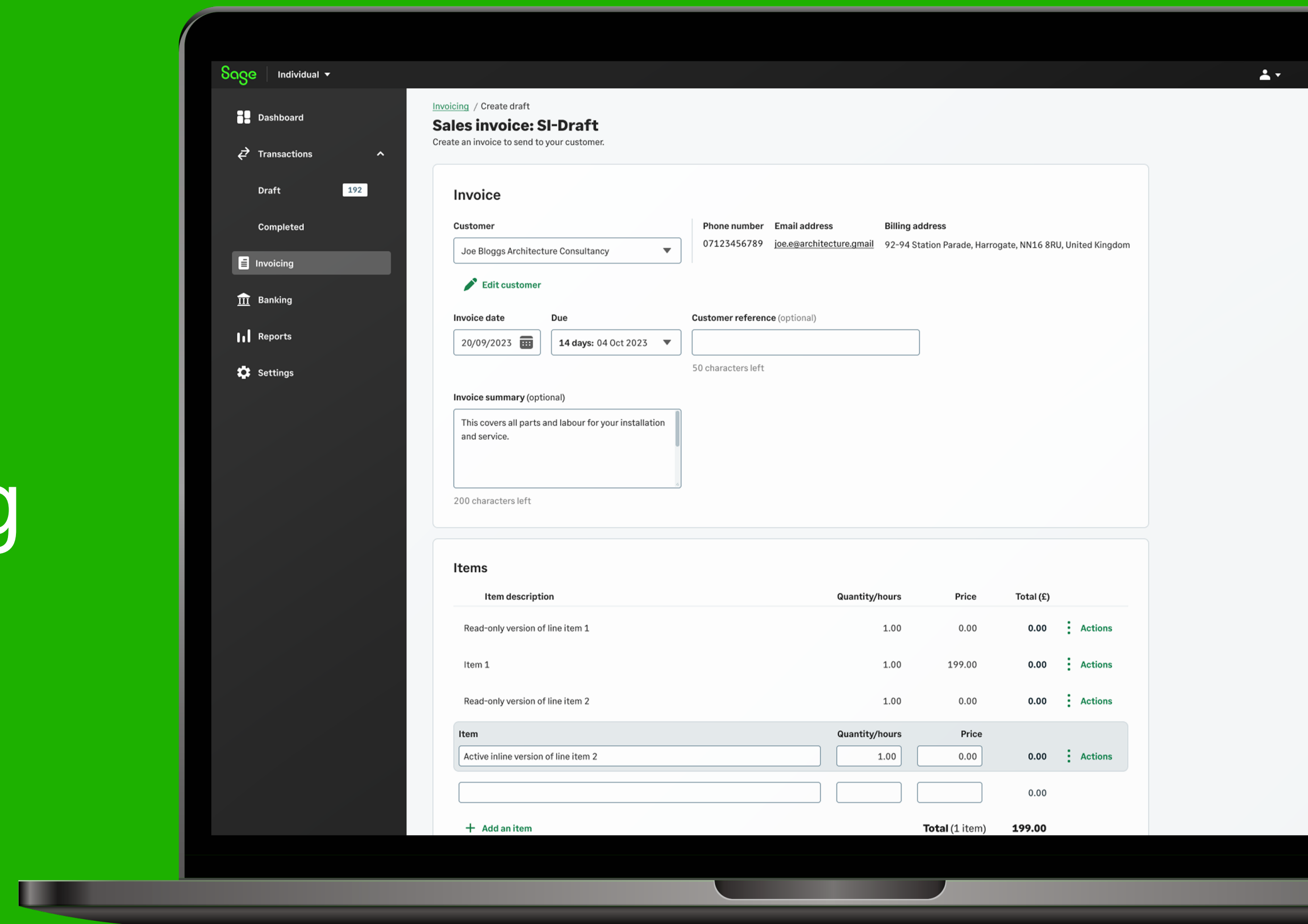
The users we refer to are small businesses and self-employed individuals.

They differ significantly from the typical target audience of the company's other products, which are primarily designed for large businesses and enterprise clients.



## Challenge

Lead the creation and enhancement of invoicing experience to empower our customers in effortlessly crafting professional invoices, ensuring prompt payment both for them and their clients.



# Define and understand project boundaries

The initial phase focused on analyzing the brief and gaining a clear understanding of stakeholder expectations and user needs.

## Discovery research

Due to limited time and resources, we couldn't run an extended research phase. Instead, we began with a focused and efficient discovery process, structured around three key streams to engage both users and stakeholders. This approach helped us to:

- Identify primary **user needs**
- Define **business goals**
- Define a competitive **strategy**
- Study market **standards & trends**

To achieve this, we combined qualitative interviews, insights from customer service feedback, and a detailed competitive benchmark.

# Research activities

## Semi-structured interviews

We conduct a total of **24 semi-structured interviews** with **key stakeholders** and **3 user groups** to define the project's scope and understand the primary needs and constraints guiding our design.

## Survey

We run a survey **targeting 200+ of current and potential users** to gather both qualitative and quantitative data, aiming to understand their overall needs and implications.

**Essentials (Construction trade)**

- When it came to gains, **getting paid on time** was considered

**Job importance (Ad-hoc invoicer)**

- The most important job was **'create invoice'**, followed by **'account for my daily taking'**

**Frustrations (Digital freelancer)**

- Regarding frustrations, **'chasing late payments'** was the biggest irritation, followed by **'following up on the payments from customers'** and **'chasing PO numbers to attach to invoices for my corporate clients'**.
- Other items like 'sending recurring invoices manually', 'different billing cycles for each customer' and 'I have to manually relate a payment to an invoice' were similarly weighted. There is slightly more volume across the plots, though again the spread is broad.
- Looking at the outputs from the value proposition, 'following up on late payments from customers' came up a lot higher than originally ranked. Whilst, the other items in the top 4 closely matched the outputs here.

Item	Ranking (1-15)
I need to be able to communicate with my customer to get paid	1
I need to understand what I need to do to get paid	2
I need to be able to communicate with my customer to get paid	3
I need to understand what I need to do to get paid	4
I need to be able to communicate with my customer to get paid	5
I need to understand what I need to do to get paid	6
I need to be able to communicate with my customer to get paid	7
I need to understand what I need to do to get paid	8
I need to be able to communicate with my customer to get paid	9
I need to understand what I need to do to get paid	10
I need to be able to communicate with my customer to get paid	11
I need to understand what I need to do to get paid	12
I need to be able to communicate with my customer to get paid	13
I need to understand what I need to do to get paid	14
I need to be able to communicate with my customer to get paid	15

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**Invoicing using SBCA Start**

How frequently do you create invoices for the same items?

- Never: 28%
- Every day: 6%
- 2 to 6 times a week: 15%
- Once a month: 22%
- Once a quarter: 4%
- Once a year: 4%

The majority of participants noted that they create invoices with the same items is never. However when you take into consideration the other responses it is clear that many of the participants do invoice them with varying frequency.

**Invoice features**

What is the most important feature/ piece of information within the invoice template?

What is the importance of this feature/ information?

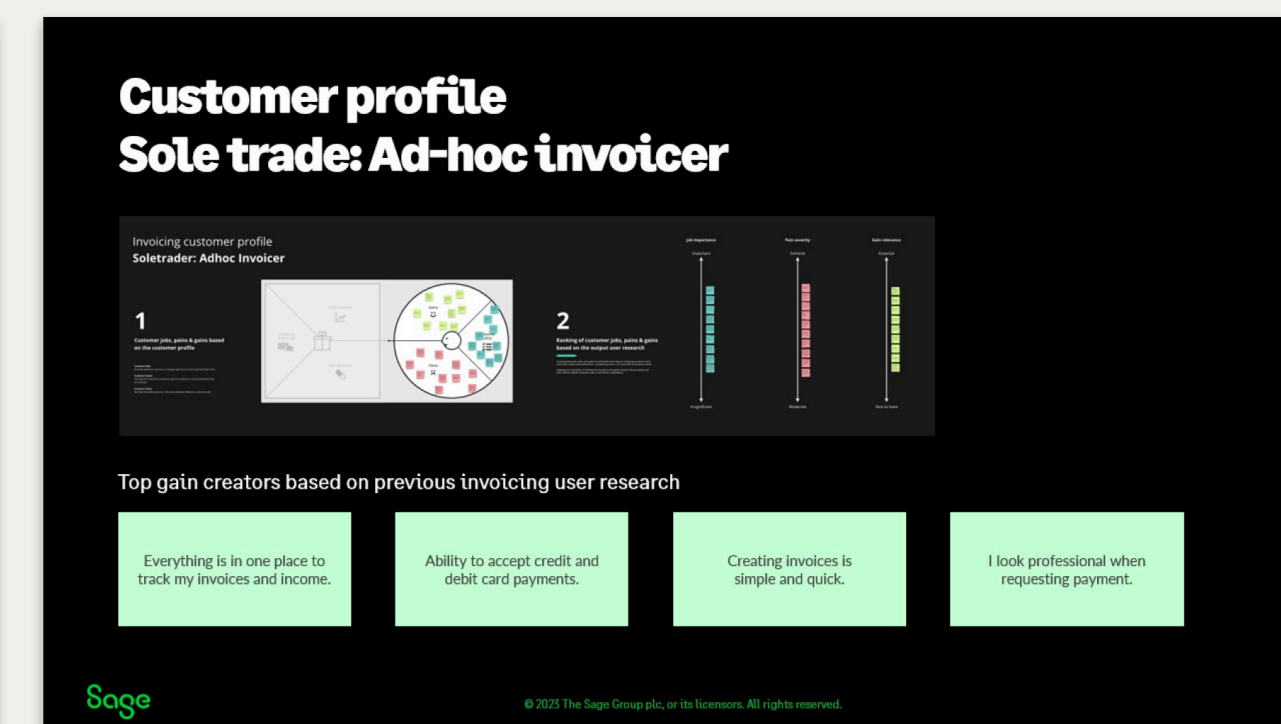
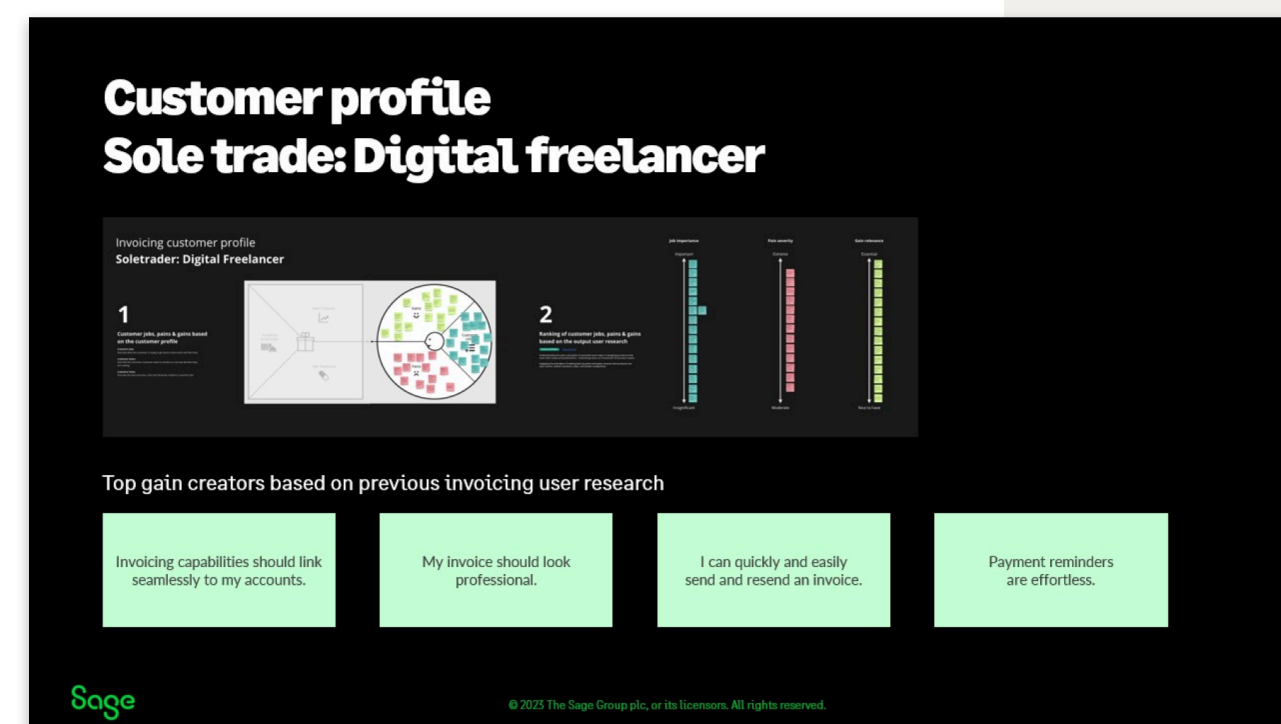
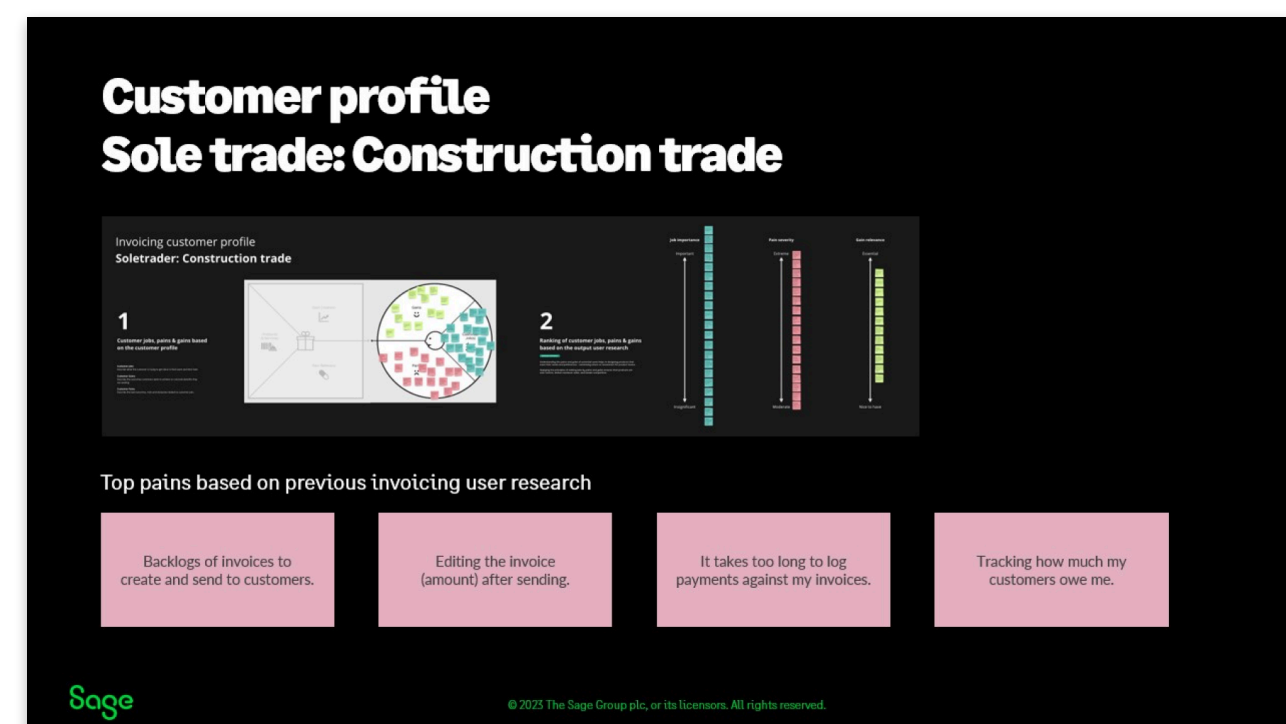
- Clear to read**
  - Makes the customers job simple
  - Making the clients business look professional and allowing their customers to ready and understanding the invoice clearly
  - To ensure customers can quickly review the invoice layout and find the key information they need for bill payment and questions
- Company name**
  - So they know who it is from
- Attachment**
  - Makes it easier to look back on
- Bank details/ pay now**
  - Easier to get paid
- Description**
  - This is the most important part of the invoice
  - All relates to the vehicles
  - Each customer requires detailed product information as our target market work under very strict certification rules
- Customer Address**
  - Clarity about who you are billing is paramount
  - To ensure that it reaches its destination efficiently
- Logo**
  - Gives the company personality and branding
  - Allows the receiver to identify who the invoice is from
  - It's the public face of the business
- Aesthetic of invoice**
  - It portrays the professionalism of the company
  - Many of our clients think our invoices look poor
  - Making it look professional for the user, making it clear and precise
- Item list**
  - It's what the customer is drawn to. The invoice options make it look insignificant
  - Customers want to see very clearly the price and % discount details
- The invoice total**
  - Tells customers how much to pay

## Users Insights

- Many customers **fail to pay on time**.
- Users are **unable to create** digital invoices themselves.
- Creating and sending invoices takes **too much time**.
- Manually marking invoices as paid on spreadsheets is **time-consuming** and **lacks correlation** with transaction lists.

## Stakeholders Insights

- Enhance **user engagement & product adoption** by offering an easy-to-use, free tool for creating digital invoices.
- The existing invoicing feature in other Sage products was underperforming, with low user satisfaction. Therefore, we needed to **define new patterns** to improve the user experience to later adopt on different products.



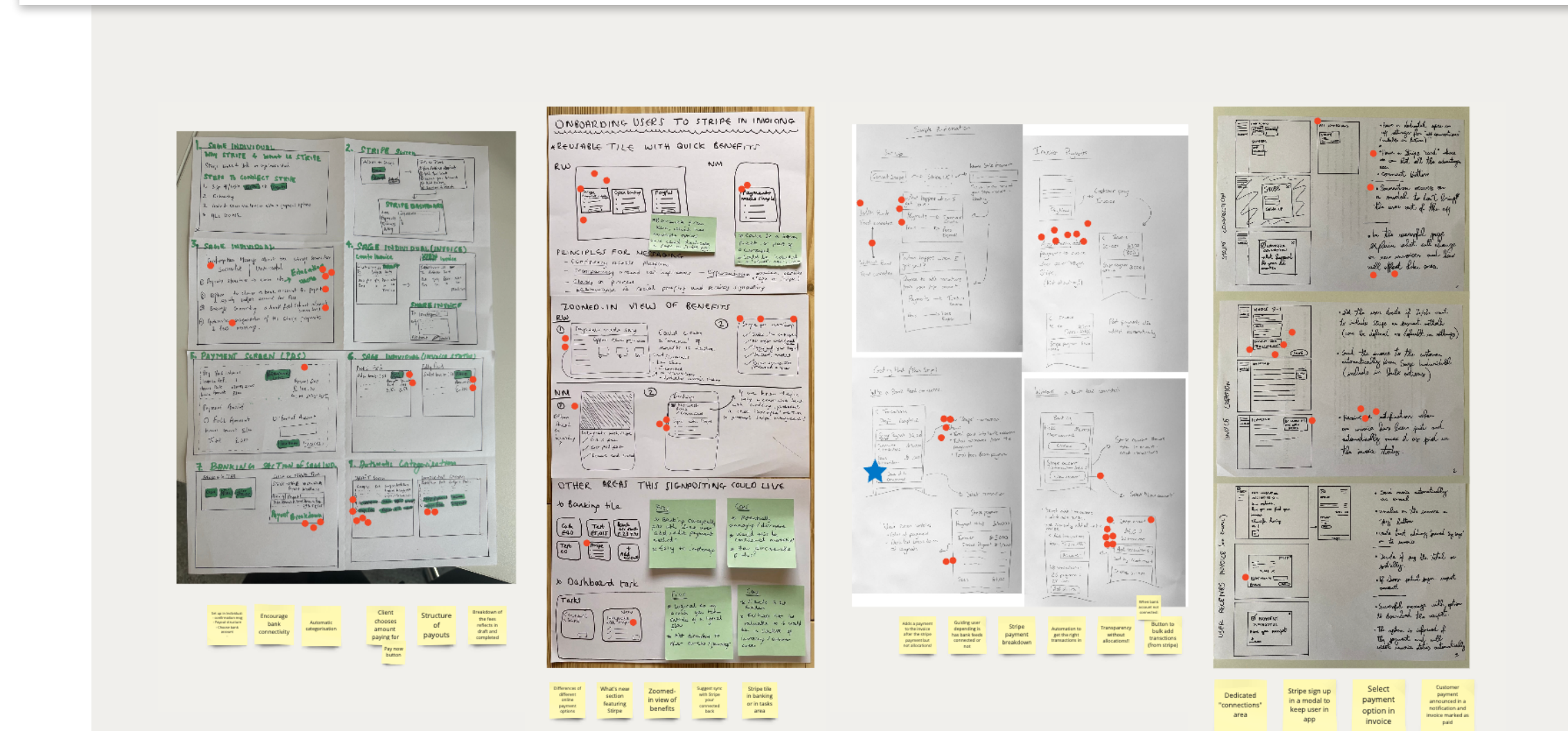
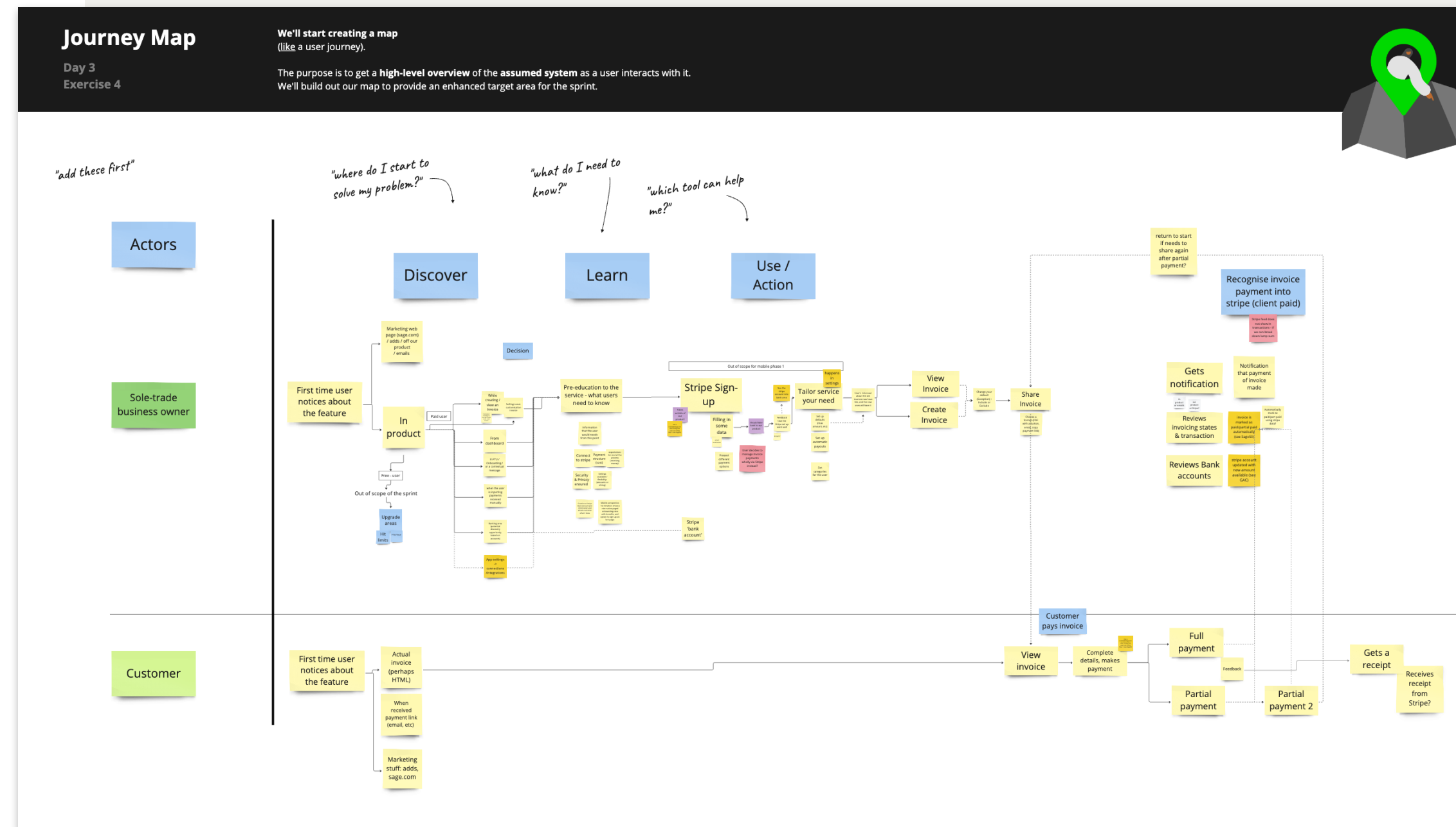
# Brief Definition

The subsequent phase involved crafting the **feature brief**, which was a **collaborative effort** between the Product Manager (PM) and the design team (comprising Product Designers, Solution Designers, and Content Designers).

To achieve this, we conducted a **five-days Design Sprint** aimed at defining the **context**, articulating the **problem statement** and the **goal**, leveraging data and insights gathered from research, and **outlining the initial high-level solution**.

The **comprehensive solution** we've outlined involves establishing 4 main features within the invoicing area for **seamless accessibility, empowering users** to tailor their invoices:

- Create an monitor invoices
- Customize invoices
- Online payment integration
- Send invoice via email

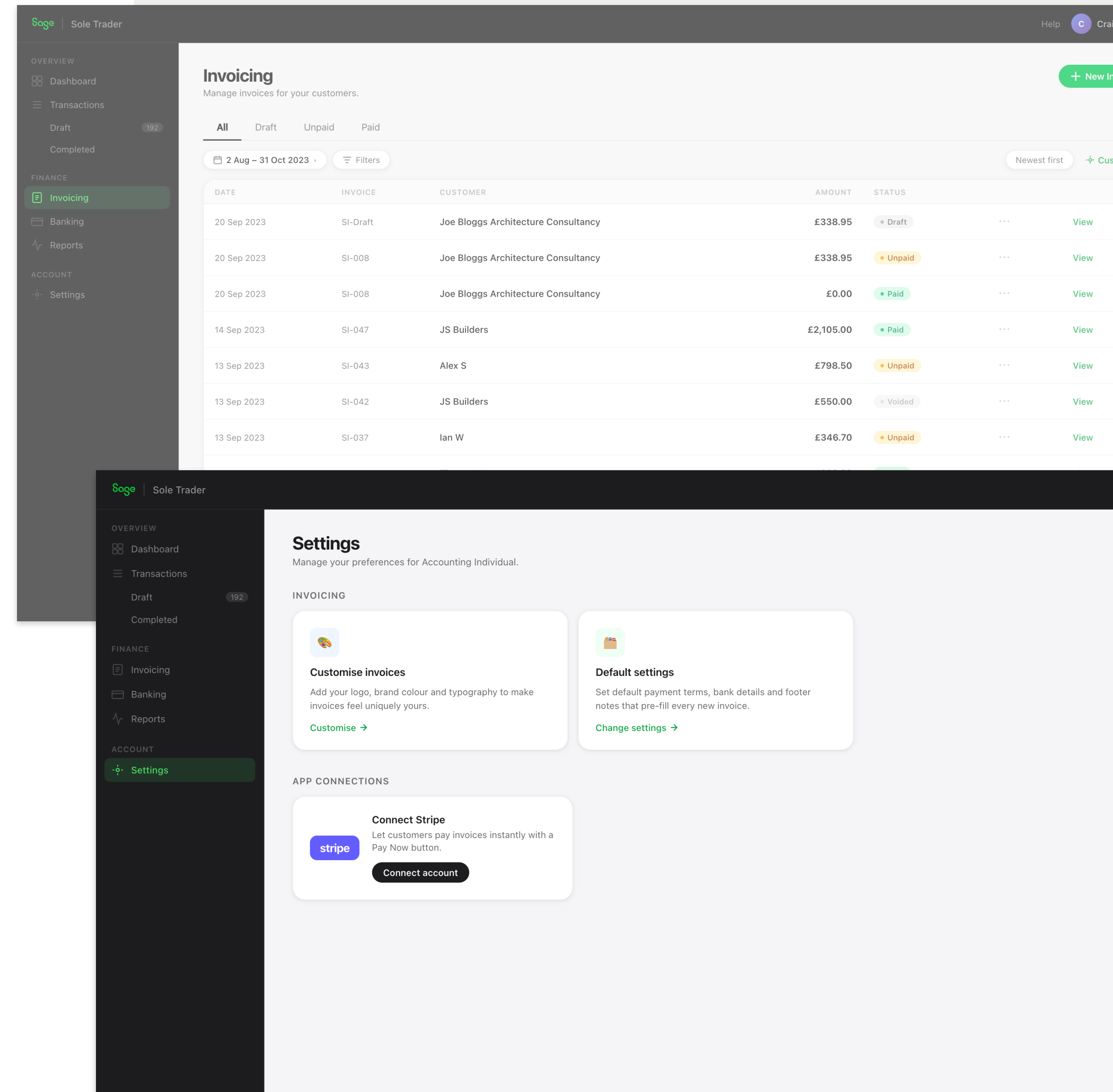


# Feasibility check

The subsequent step involved **presenting** the identified solutions to our **Architects** and **Developer teams** to assess their feasibility and garner insights into implementation.

Upon architectural review, the **primary challenge** that emerged pertained to the organization of endpoints, as they needed to be stored in different services to ensure accessibility by the frontend and reduce errors and loading times.

Consequently, we needed to **redefine our approach**, breaking it down into a more viable alternative, creating individual setting sections where each invoicing customization would reside independently.





## Design & Implementation phase

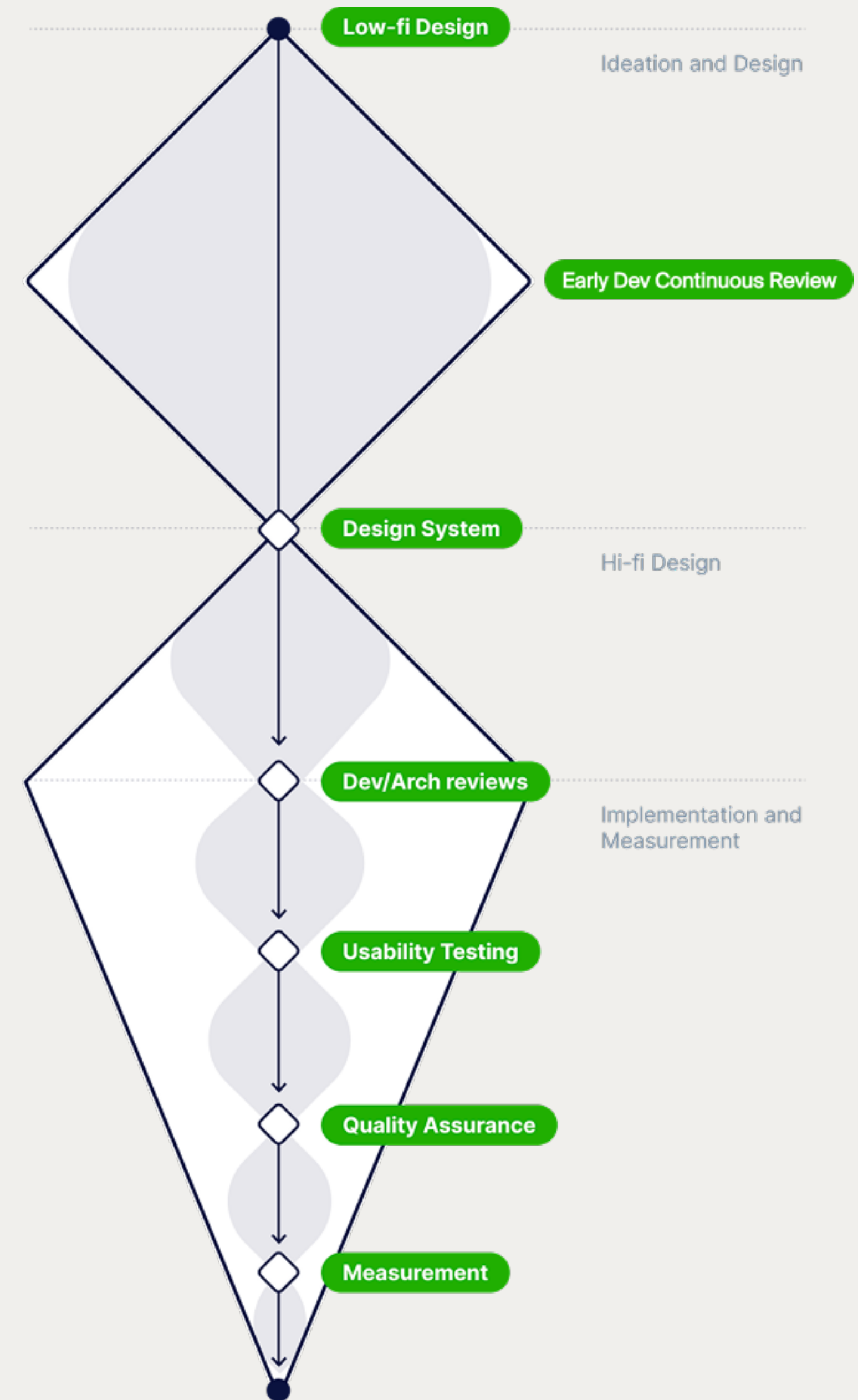
All subsequent designs across the listed releases were meticulously crafted to adhere to our established **design system**, incorporating new patterns seamlessly integrated into our guidelines when needed.

Upon the completion of designs, we conducted thorough **reviews with architects** and **developers** to assess feasibility.

We then initiated the first round of **usability testing** with our users to swiftly evaluate our solutions.

Once moved our designs into production, we maintained continuous alignment with developers to ensure **rigorous quality assurance** standards were upheld.

The final steps involve **measuring KPIs** to initially gauge the success level of the feature and assess its impact on our customers and business.



Design solutions

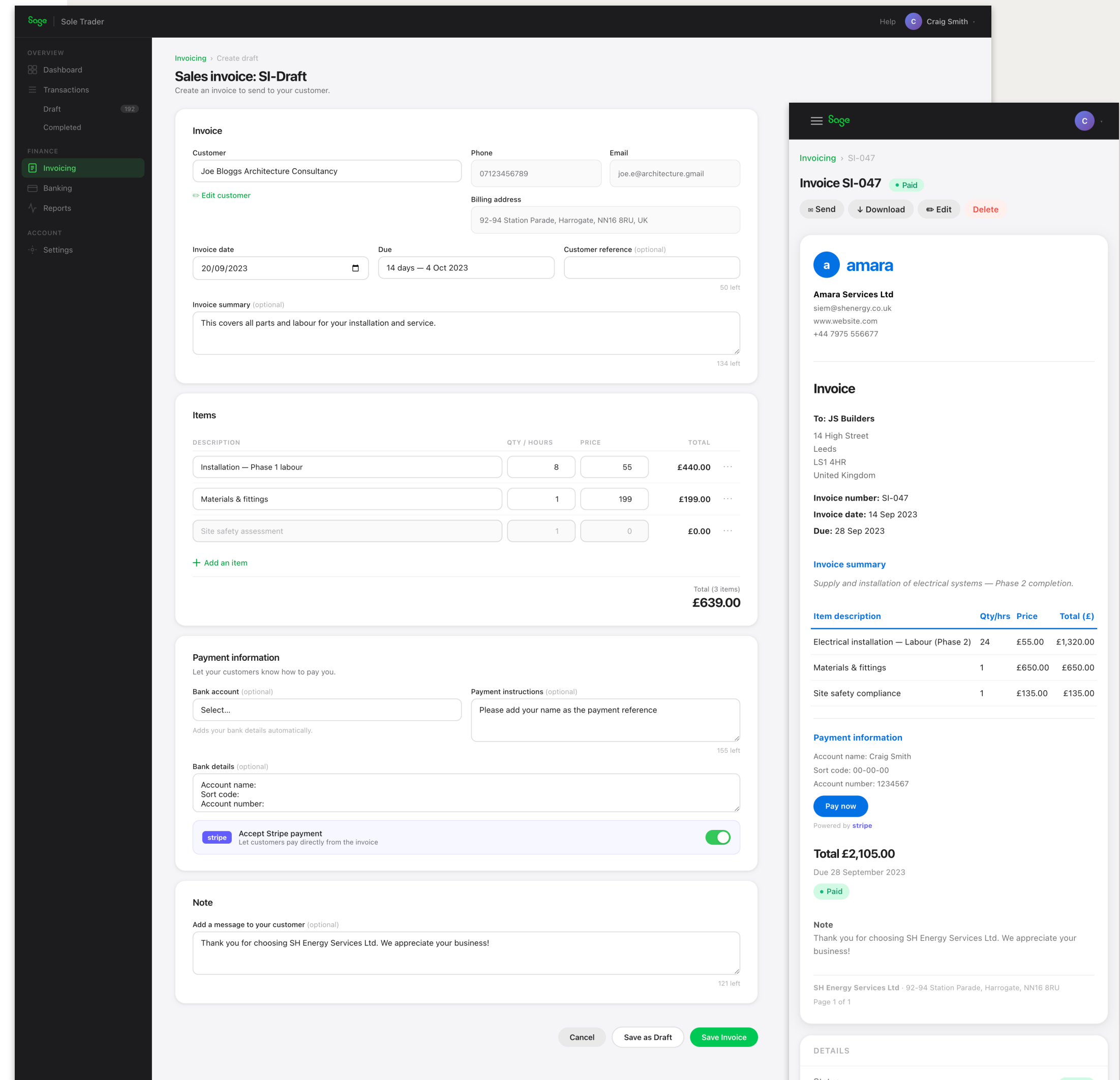
# Set the invoicing area [1st release]

The initial release established a foundation to help users easily **create** and **manage invoices**.

# Create an invoice

The first feature regarded the **creation of an invoice**. Through endpoints calls we have been able to **automatically load all the clients datasets** from customer and banking area of the product, helping our users to don't need to write everything again and again, but just selecting a customer from the list.

*After testing the area and adding more information and functionalities, all the additional information and payment data were moved out of the items container and into **dedicated subsections**. This resulted in a clearer and more user-friendly interface, with each functionality having its own dedicated space.*

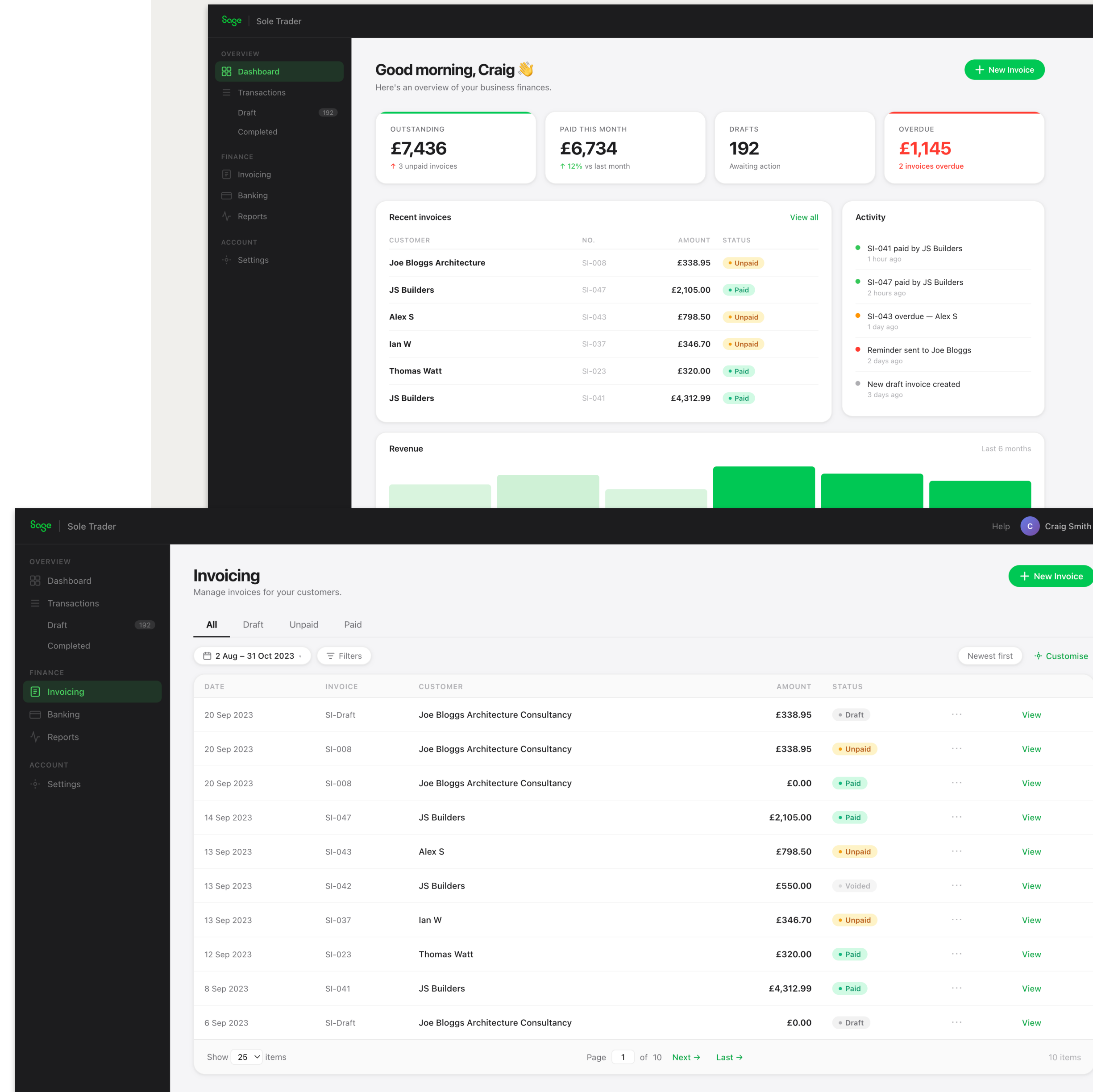


# Invoice monitoring

The interface includes a table where users can **view all invoice details**, **payment statuses**, and have **quick access to actions** such as previewing, exporting, editing, voiding, or deleting invoices.

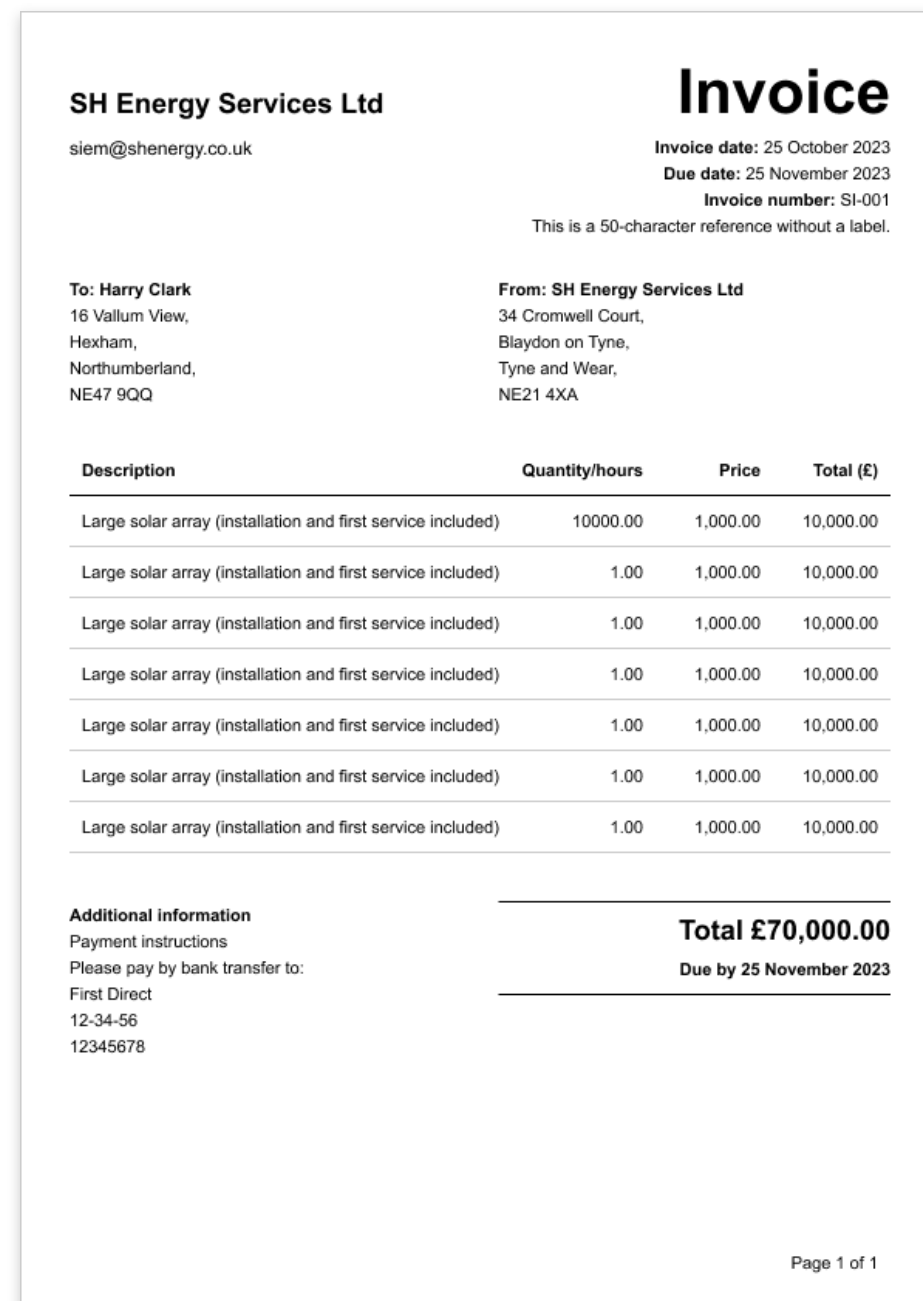
A **table view was chosen** over a list view to meet the need for **comparing data** across different invoices and to provide easy access to actions within a web viewport.

*The table's responsiveness required horizontal scrolling on smaller viewports, which initially did not seem very effective. However, testing sessions revealed no issues with its usability. This confirmed that its effectiveness and accessibility were guaranteed for screen-reader and keyboard users.*



# Invoice layout

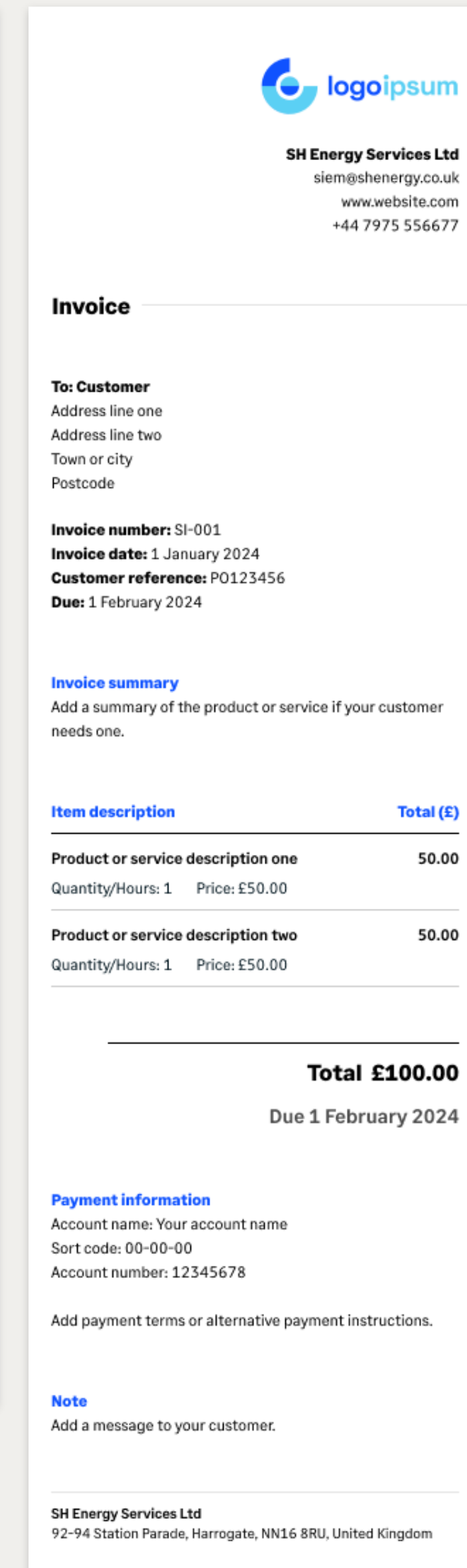
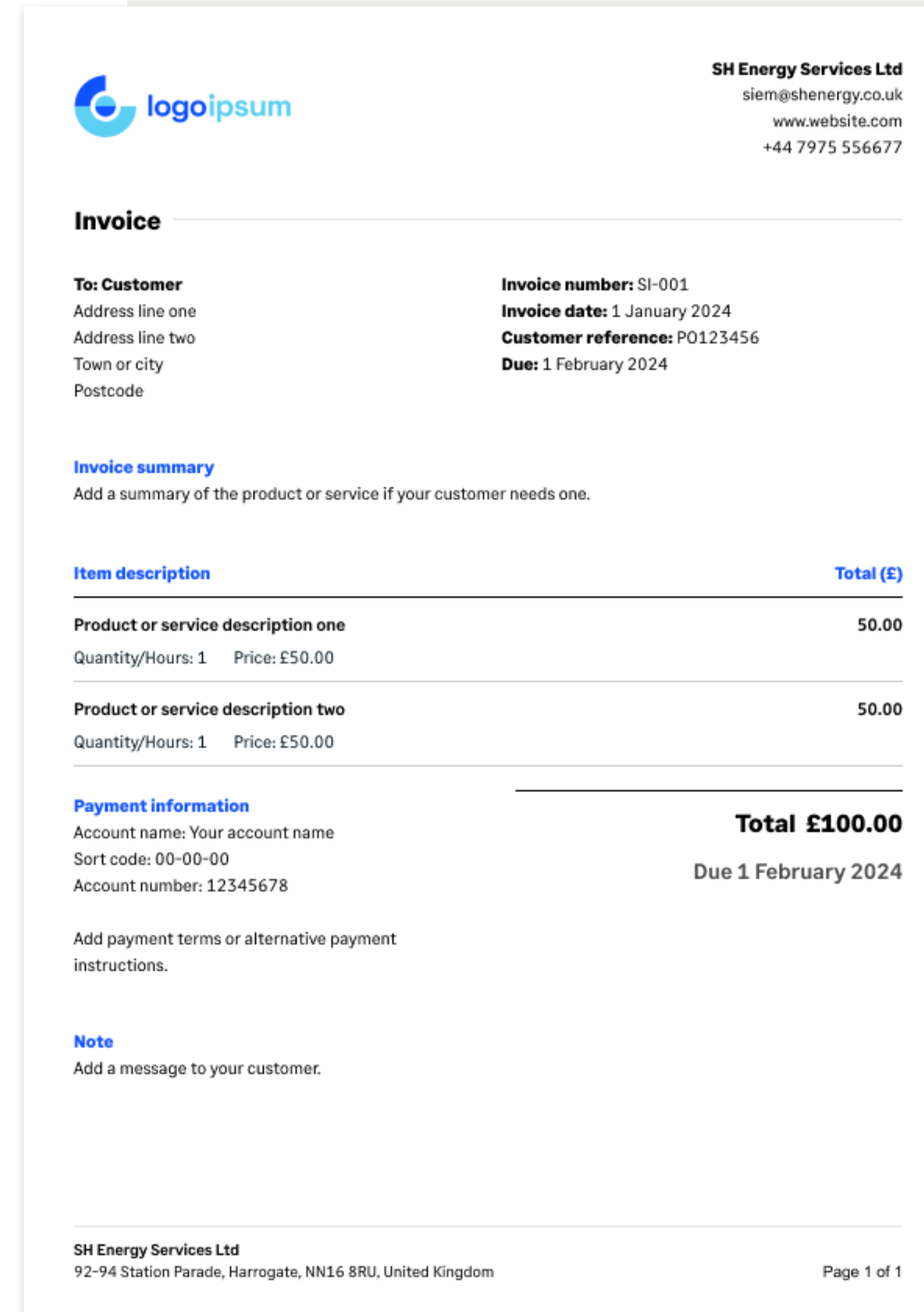
The final feature of the initial release was the creation of the invoice template layout. To achieve this, we **analyzed 30 invoices** from various industries to **identify common patterns** and **information organization**, ensuring a well-structured template.



*Due to a short release timeline, the initial layout released was a basic black-and-white version containing only essential information.*

*Enhancements were subsequently added to the backlog and implemented later. These enhancements included:*

- Improved responsiveness
- Options to choose between different layouts
- Color and font selection
- Adding a business logo
- Adding personal notes and additional information



Design solutions

# Invoice Customization [2nd release]

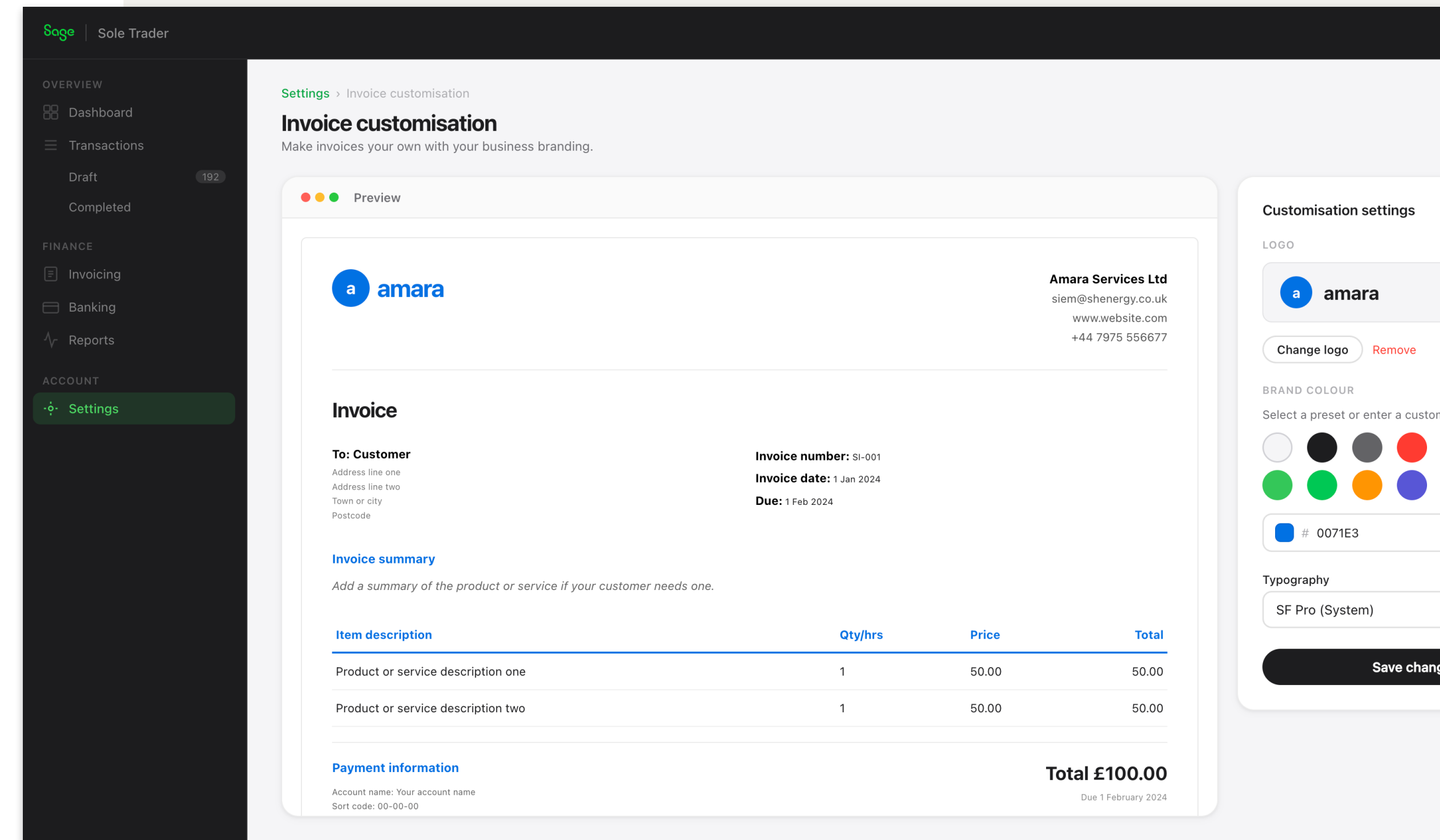
The release focused on empowering users to **effortlessly design invoices** without requiring design expertise.

## Design customization

We offered a pre-designed template, enabling users to **customize colors, fonts, and incorporate their company logo** to align the template with their brand. Additionally, users could **preview** these modifications in real-time, enhancing their invoicing experience.

Users can now instantly customize the appearance of their invoices with a **fast, simple, and user-friendly solution.**

*Upon architectural review, the primary challenge identified was the organization of endpoints. These needed to be stored across different services to ensure accessibility by the frontend, reduce errors, and improve loading times. Consequently, customization options were stored and accessed in the settings area.*

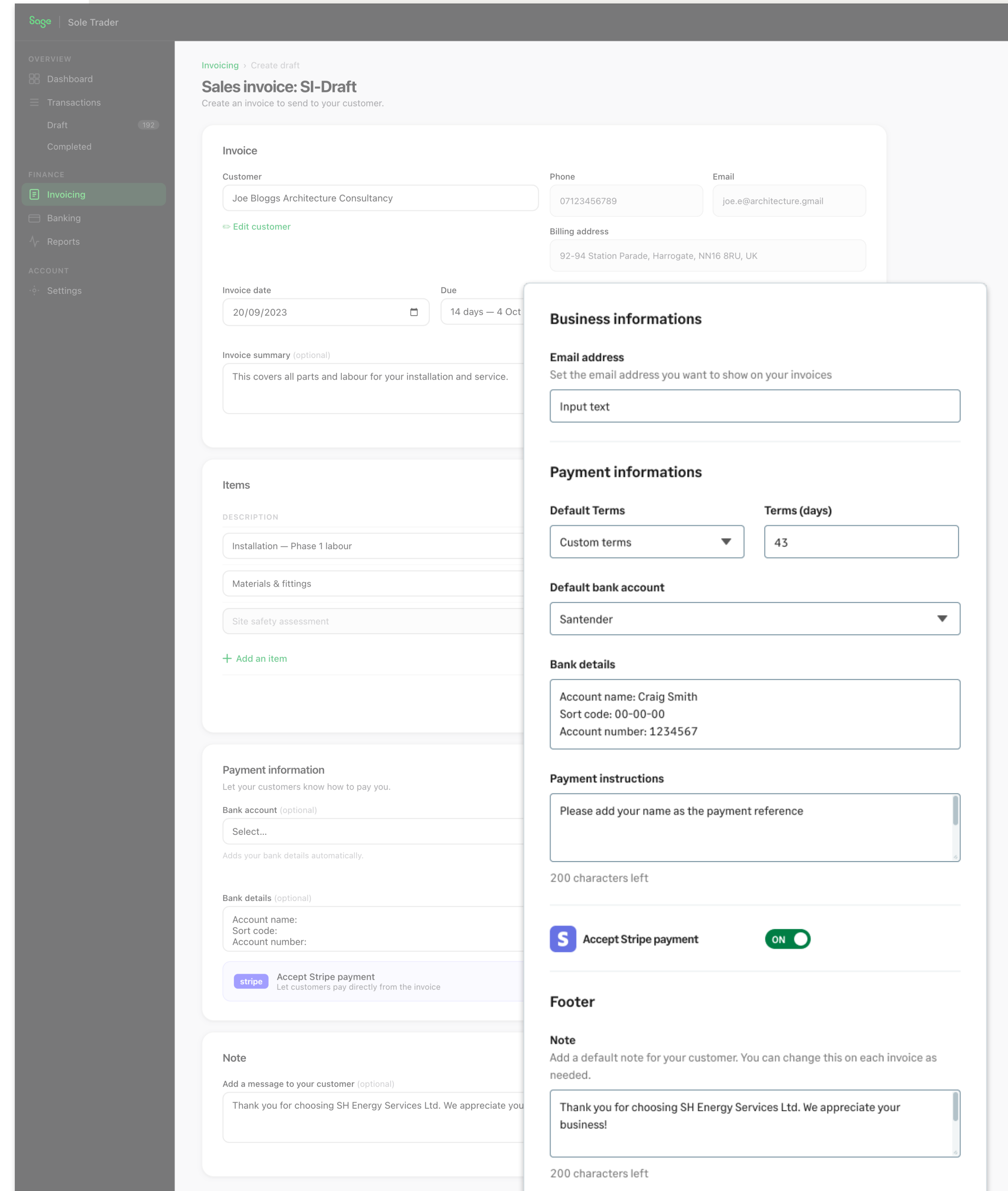


# Default settings

The second release focused on empowering users to **streamline their invoicing process** by allowing them to set default information and automatically see it reflect during the invoice creation.

Users can now **select a default payment method** and bank account, define **payment instructions** and messages for customers, and **configure default business information**.

As a result, when creating a new invoice, users will find all these details pre-filled, **saving significant time and effort**.



Design solutions

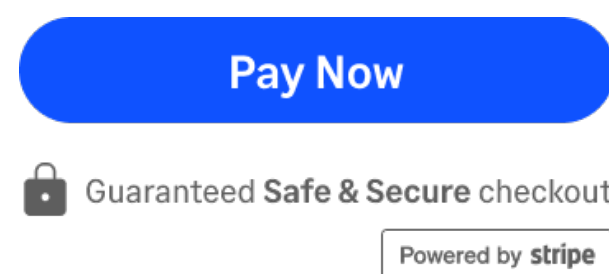
# Online payment integration [3rd release]

The third release focused on integrating Stripe into payment methods, enabling our customers to receive payments more efficiently.

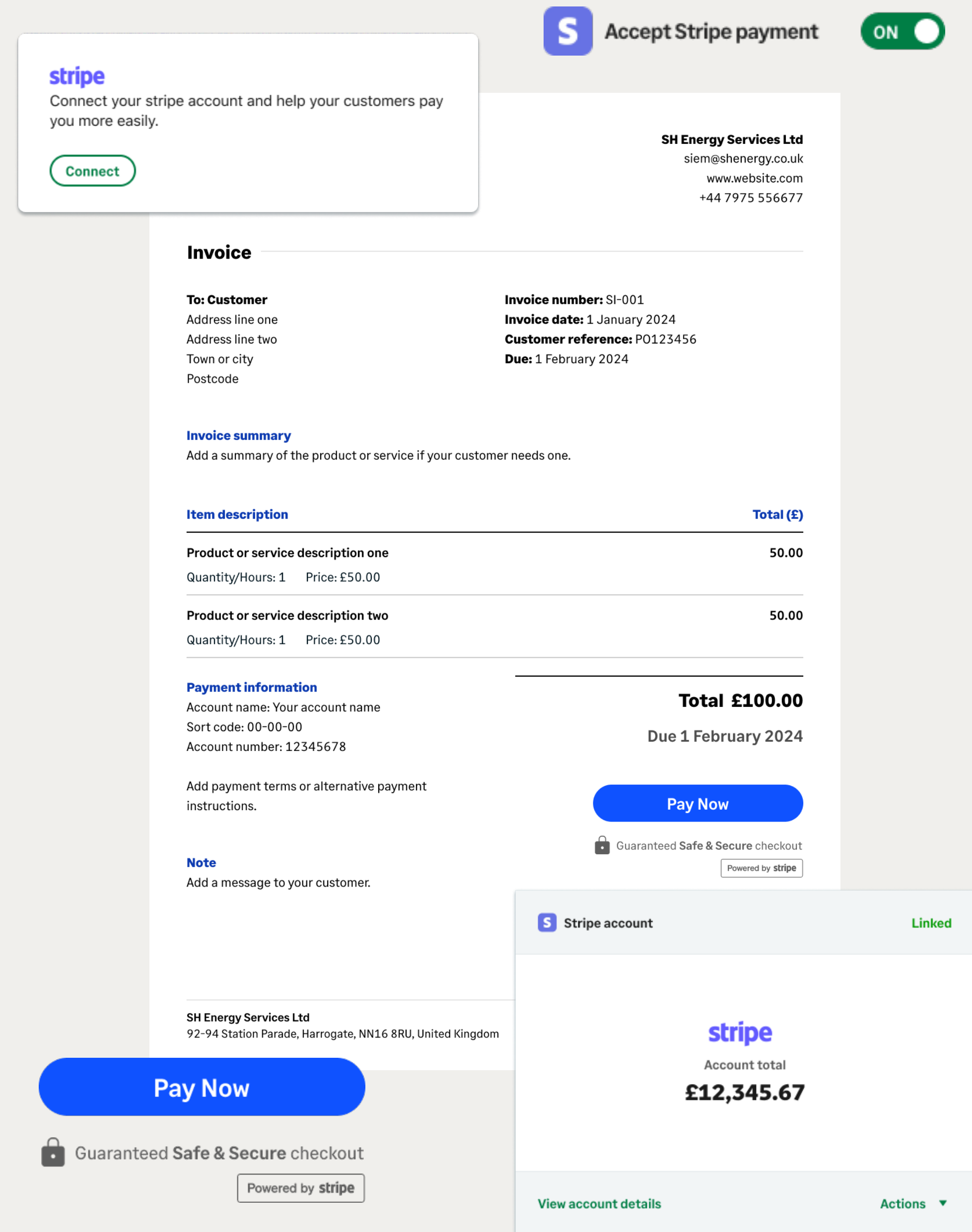
# Stripe Integration

For doing so, we needed to create a integrate a Stripe account within the banking area to connect with, as well as establishing **direct links** from invoices to related transactions to **automatically mark invoices as paid**.

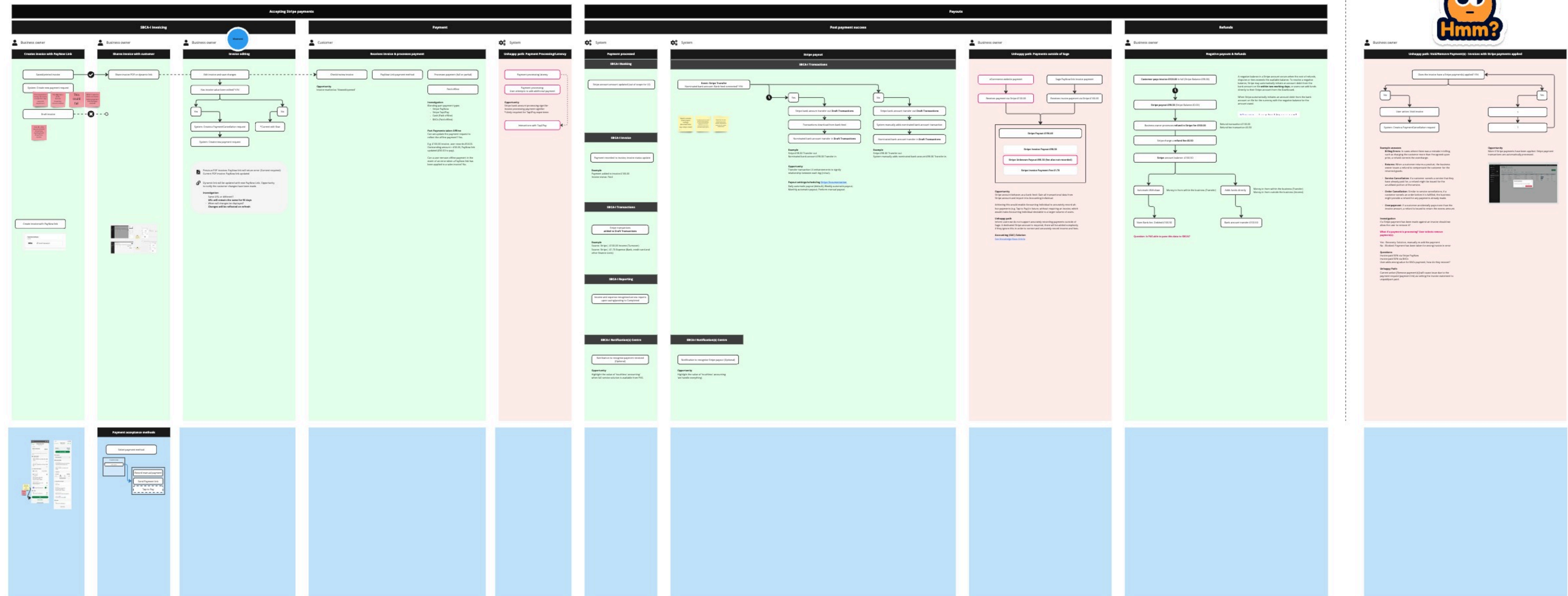
To achieve this, we **closely collaborated with the Stripe team** to understand how to **correctly integrate** all the information and **optimize** the conversion of feature usage, leveraging their knowledge and datasets.



*After a round of tests we discovered that implementing the security badge along with the Stripe integration below the "Pay Now" button increased user trust in the feature by 60%.*



# Design solutions



To streamline the integration with Stripe and our architecture, we utilized a **Service Blueprint**. This tool helped highlight all the intersections, facilitating clear communication with our architects. By defining the necessary endpoint calls, we ensured a **smooth and efficient integration process**.

Users can now effortlessly create invoices using customized templates and settings, saving time in the process.

They can export or send invoices through a dynamic link to final customers, monitor payment statuses, and have invoices automatically marked as paid when payments are made through Stripe.

All implemented solutions delivered exceptional results, garnering overwhelmingly positive feedback from our users and significantly boosting their approval rating.

**+34%**

increase in invoices paid on time

**56%**

reduction in the time taken to create an invoice

**+27%**

increase in engagement within the first month after its release

# Behind the scenes

A quick shot on efforts not visible in the designs made for successful implementation

# User Feedbacks and Iteration

## Conducted Extensive Testing

Before the release of any solution stream we've performed a total of **four testing sessions** to **validate** design choices and **gather user feedback**.

## Iterative Improvements

We **continuously refined features** by leveraging testing outcomes and user insights, systematically adding improvements to a backlog, where they were categorized and prioritized during planning sessions based on the team's capacity and strategic goals. This **iterative process** ensured that the most impactful enhancements were addressed first, **optimizing the development workflow** and **improving the overall user experience**.

**Task eight**  
You have already created an invoice for a customer but want to check it. Where would you go to do this?

**Responsive Web**  
Correct and direct success answers:  
Number of clicks required - 1  
Correct first click - Invoicing  
Correct end point- Invoicing

**Success**  
Direct success - 85%  
Indirect success - 10%  
95% of RW participants correctly located "Invoicing"  
Direct fail - 5%  
Indirect fail - 0  
5% of RW participants did not locate "Invoicing" as the answer to this task

**Directness**  
Direct success - 1 click  
Indirect success - Average of: 2 clicks  
Direct fail - Average of: 1 click  
Indirect fail -

**Time spent**  
This task took an average of 50 seconds for each participant to complete

**First click**  
The most common first click for RW in this task was Invoicing

**End point**  
The most common end point for RW in this task was Invoicing

**Native mobile**  
Correct and direct success answers:  
Number of clicks required - 1  
Correct first click - Invoicing  
Correct end point- Invoicing (Sales)

**Success**  
Direct success - 70%  
Indirect success - 10%  
80% of NM participants correctly located "Invoicing"  
Direct fail - 5%  
Indirect fail - 15%  
20% of NM participants did not locate "Invoicing (Sales)"

**Directness**  
Direct success - 1 clicks  
Indirect success - Average of: 9 clicks  
Direct fail - Average of: Abandoned task  
Indirect fail - Average of: 8 clicks

**Time spent**  
This task took an average of 64 seconds for each participant to complete

**First click**  
The most common first click for NM-VA in this task was Invoicing

**End point**  
The most common end points for NM in this task was Invoicing (Sales)

**Task three**  
Where would you go to create a new invoice for a customer?

**Responsive Web**  
Correct and direct success answers:  
Number of clicks required - 1  
Correct first click - Invoicing  
Correct end point- Invoicing

**Success**  
Direct success - 95%  
Indirect success - 5%  
100% of RW participants correctly located "Invoicing" as the correct location for this task  
Direct fail - 0  
Indirect fail - 0  
All participants successfully completed this task

**Directness**  
Direct success - 1 click  
Indirect success - Average of: 4 clicks  
Direct fail -  
Indirect fail -

**Time spent**  
This task took an average of 45 seconds for each participant to complete

**First click**  
The most common first click for RW in this task was Invoicing

**End point**  
The most common end point for RW in this task was Invoicing

**Native mobile**  
Correct and direct success answers:  
Number of clicks required - 1/2  
Correct first click - Invoicing  
Correct end point- Invoicing (Sales)/ Add an invoice

**Success**  
Direct success - 63%  
Indirect success - 21%  
84% of NM participants correctly located "Invoicing (sales)" or "Add an invoice" as the answer to this task  
Direct fail - 16%  
Indirect fail - 0  
13% of NM participants did not locate "Invoicing (sales)" or "Add an invoice" as the answer to this task

**Directness**  
Direct success - 1 clicks  
Indirect success - Average of: 4 clicks  
Direct fail - Average of: 2 click  
Indirect fail -

**Time spent**  
This task took an average of 58 seconds for each participant to complete

**First click**  
The most common first click for NM in this task was Invoicing

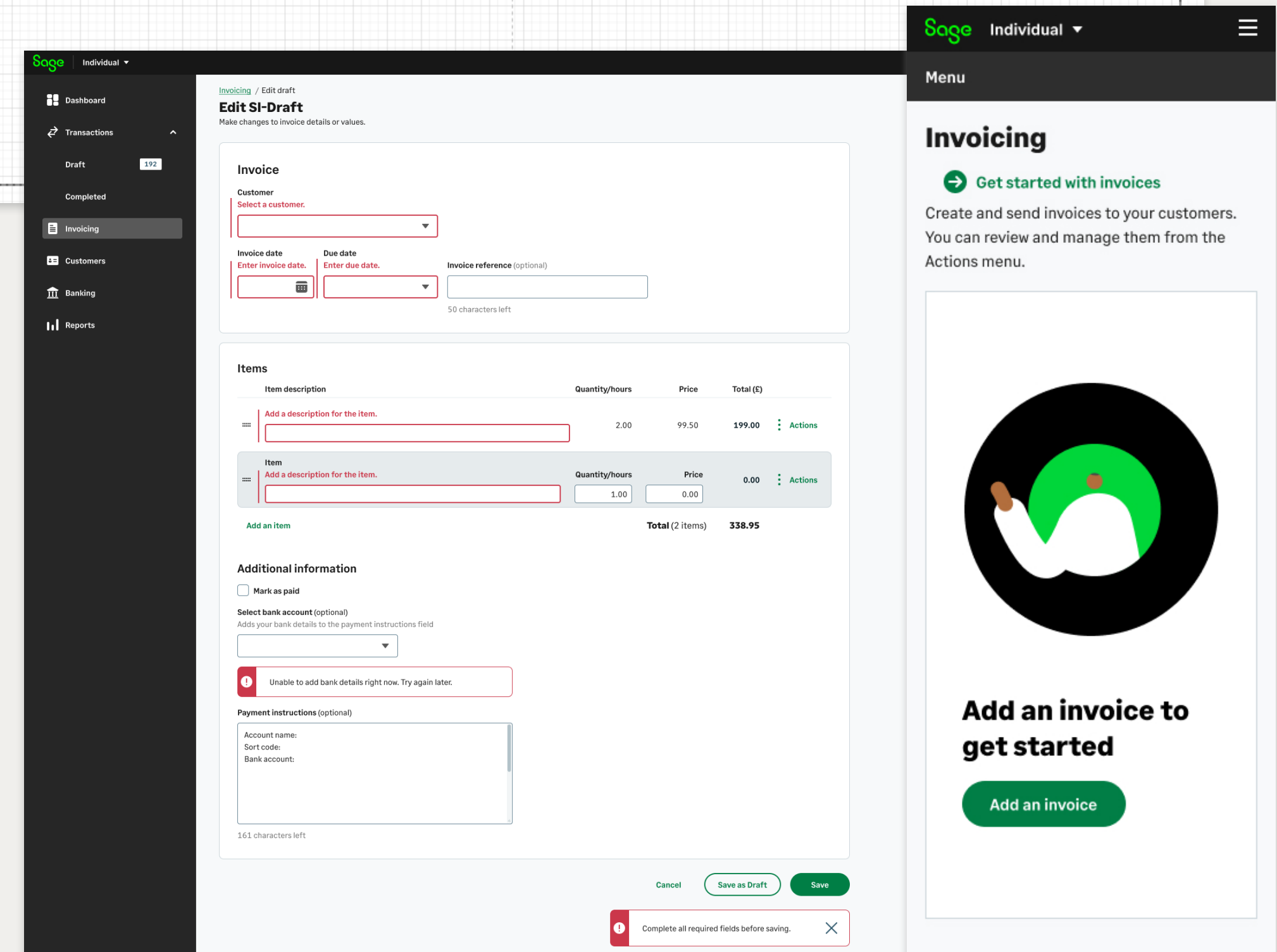
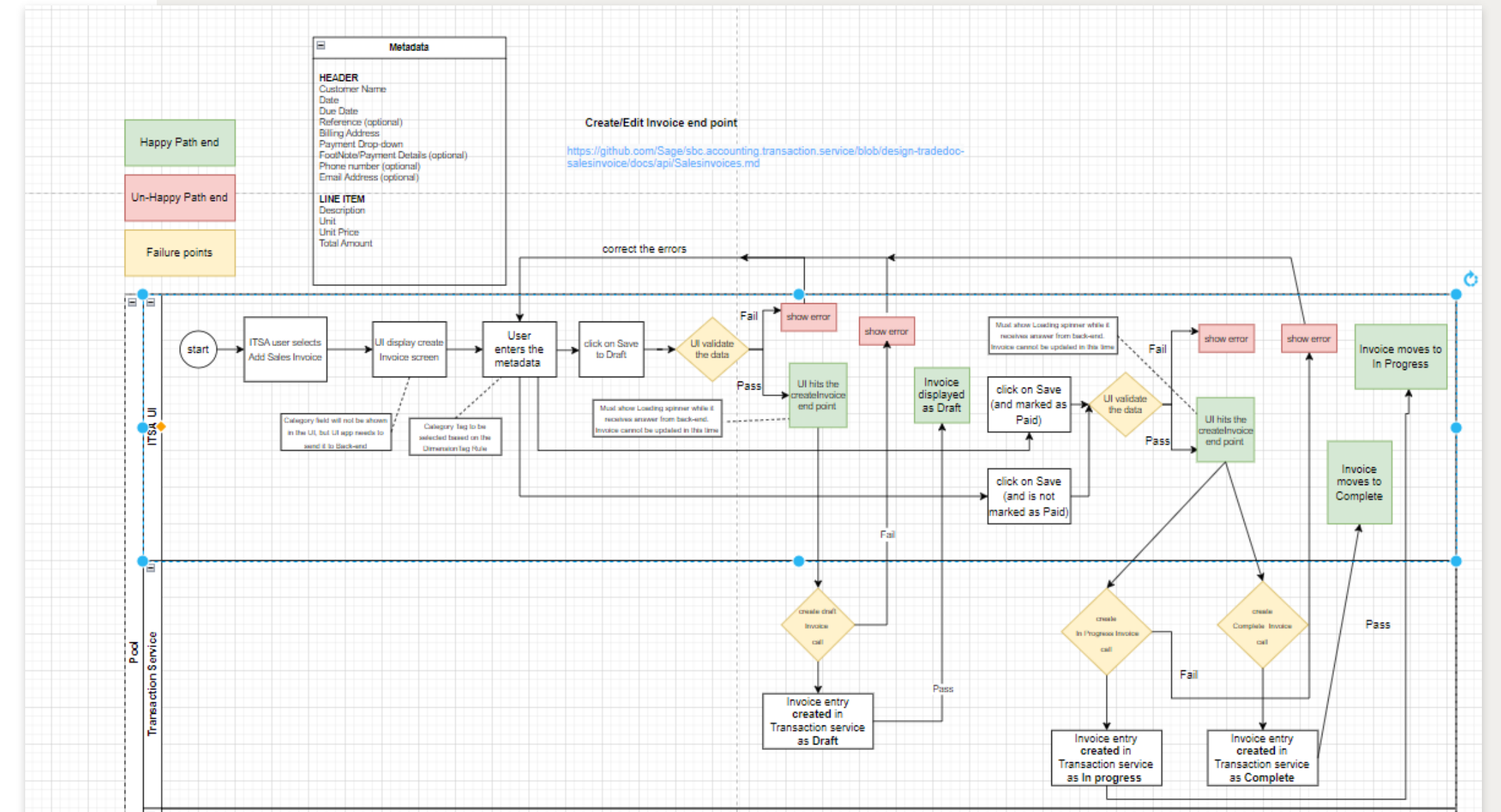
**End point**  
The most common end points for NM in this task was Invoicing (sales) or Add an invoice

**Backlog:**  
SBS-62000 UK VAT 100  
SBS-62001 VAT 100 Set Up  
SBS-62005 VAT 100 Authentication - web (end user) integration  
SBS-62006 VAT 100 Record Tax On Transactions  
SBS-62007 VAT 100 Details View  
SBS-62599 XD Improvements and enhancements  
SBS-63888 Notes improvements Q3 - WEB UI  
SBS-64957 Web SBCA Individual Improvements - Filters Q4  
SBS-65061 SBCAI - Improvements/Enhancements Ideas & Suggestions | Web Parking Lot  
SBS-65440 Profit and loss KPI with Variance showing  
SBS-65588 Web SBCA Individual Improvements - Banking Q4  
SBS-66165 Reporting for Sales Invoices  
SBS-66234 Sales Invoice Customisation  
SBS-66284 VAT 100 Supporting Reports  
SBS-66289 VAT 100 Report Calculation  
SBS-66291 VAT 100 Submission Management  
SBS-66292 VAT 100 Report Submission  
SBS-66293 VAT 100 Post-Submission Management  
SBS-67482 Identification of ledger account types  
SBS-72323 SA103 Helper Report: phase 3 (web)  
SBS-73267 VAT 100 Authentication - SFA (accountant) integration  
SBS-73268 VAT 100 Authentication - iOS implementation  
SBS-73269 VAT 100 Authentication - Android implementation  
SBS-75909 Analytics for Individual Notes  
SBS-77180 Pendo Tracking Reporting - Web  
SBS-77253 Design and Develop a Configurable UI for View list of Invoices - Web  
SBS-77552 Allow the user to choose the country of the customer  
SBS-79147 Pendo updates required for IAP release to track events currently not being captured (web)  
SBS-66162 Prototype Auto-save flow (Web)  
SBS-86901 Smart Edit and Different Posting Methods  
SBS-96085 Adapt Pay end point to make fields Mandatory - Deprecation of actions in endpoints for mobile  
SBS-103823 Capability of Posting Multiple Ledger Entries at the same time

# Errors Handling and Edge Cases

Developed comprehensive **error handling** and **empty state designs** to ensure a robust user experience. This involved identifying potential user errors and system failures, crafting intuitive and informative error messages, and designing clear, user-friendly empty states.

These designs aimed to **guide users** through troubleshooting steps, **maintain engagement**, and **reduce frustration** by providing actionable insights and easy recovery options.



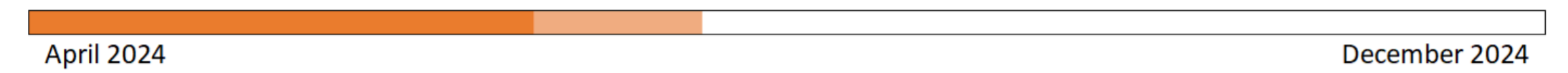
## Ensuring Accessibility

Conducted thorough **accessibility testing** to ensure the design was **adhering to WCAG 2.2 guidelines**, implementing proper contrast ratios, keyboard navigability, and descriptive ARIA labels, to ensure the feature is accessible to all users.

**No accessibility issues** were found during the audit with the axe scan.

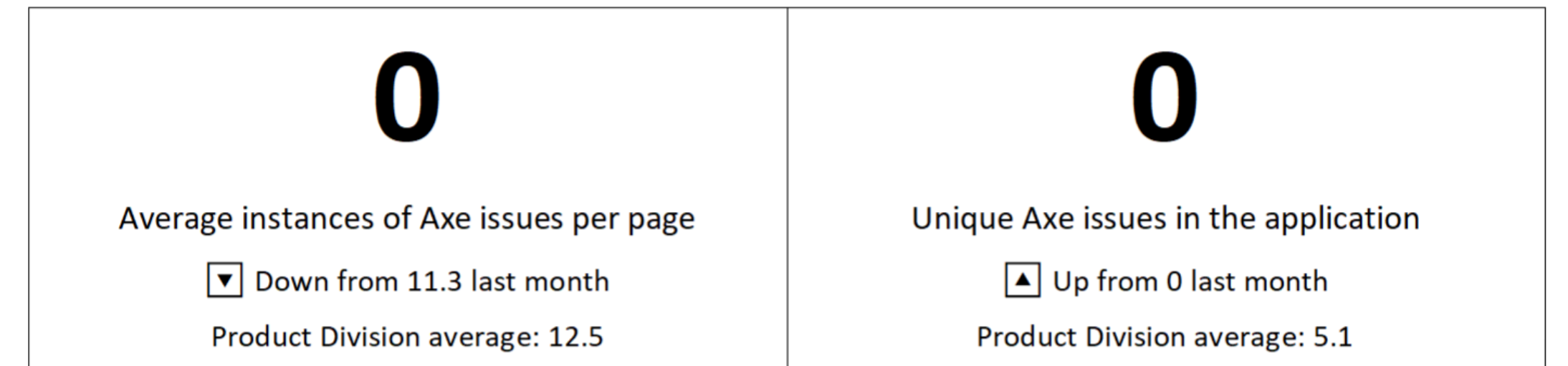
### Our mission

Resolve all Axe issues across the entirety of all cloud products by 31 December 2024.



### Summary

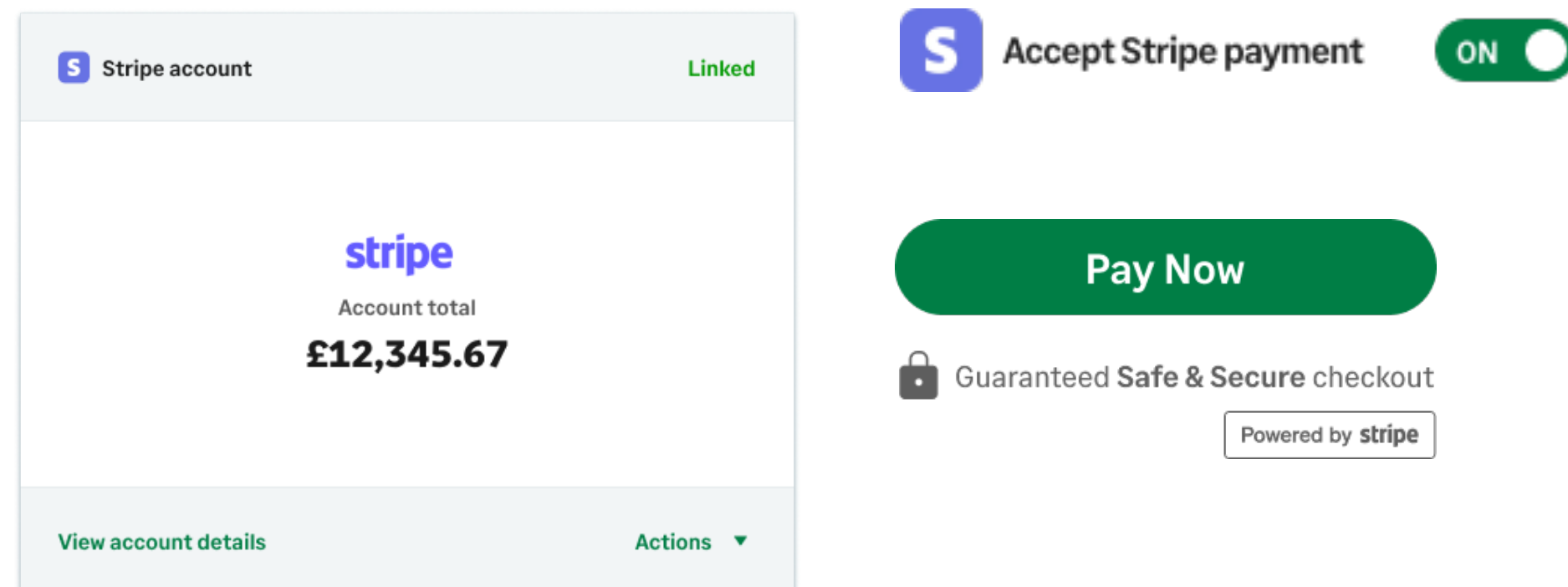
In July 2024, we surveyed 3 pages in Accounting Individual.



## Design System Collaboration & Integration

Collaborated with the design system team to **maintain consistency and coherence** across all sections and products of the company. This involved **leveraging existing components** and **contributing new ones** to the design system repository.

### Eg. Stripe branded components



## Responsive Table component

Ensuring data remains accessible at all times while upholding high accessibility standards.

Date	Invoice	Customer	Amount	Status	Edit	Download
18 Sep 2025	SI-008	Joe Bloggs Architecture	€338.90	Draft		
18 Sep 2025	SI-008	Joe Bloggs Architecture	€218.00	Unpaid		
18 Sep 2025	SI-008	Joe Bloggs Architecture	€550.00	Paid		
18 Sep 2025	SI-008	Joe Bloggs Architecture	€346.70	Paid		
18 Sep 2025	SI-008	Joe Bloggs Architecture	€412.60	Unpaid		
18 Sep 2025	SI-008	Joe Bloggs Architecture	€218.00	Draft		
18 Sep 2025	SI-008	Joe Bloggs Architecture	€412.60	Paid		

Date  
20 Sep 2023

Customer  
Joe Bloggs Arch

Amount  
€338.90

Actions

Date  
20 Sep 2023

Invoice  
SI-012

Customer  
Joe Bloggs Architecture

Amount  
€338.90

Unpaid






















Actions

## 01. Problem

The existing table presented a major challenge. While functional on desktop, it **lacked responsiveness** on mobile and tablet devices, forcing users to rely on horizontal scrolling.

This led to **poor content discoverability**, as many users failed to realize more data was hidden off-screen. This created a high degree of friction: many users failed to discover hidden data, leading to significant information loss.

Furthermore, the table was **completely inaccessible**, failing to meet basic inclusive design WCAG standards.

Date	Invoice	Customer	Amount	Status	Edit	Download	Comment	View invoice
18 Sep 2025	SI-008	Joe Bloggs Architecture	€338.90	Draft				<a href="#">View</a>
18 Sep 2025	SI-008	Joe Bloggs Architecture	€218.00	Unpaid				<a href="#">View</a>
18 Sep 2025	SI-008	Joe Bloggs Architecture	€550.00	Paid				<a href="#">View</a>
18 Sep 2025	SI-008	Joe Bloggs Architecture	€346.70	Paid				<a href="#">View</a>
18 Sep 2025	SI-008	Joe Bloggs Architecture	€412.60	Unpaid				<a href="#">View</a>
18 Sep 2025	SI-008	Joe Bloggs Architecture	€218.00	Draft				<a href="#">View</a>
18 Sep 2025	SI-008	Joe Bloggs Architecture	€412.60	Paid				<a href="#">View</a>

## Sage | Responsive table

Date	Invoice	Customer	Amount	Status	Edit	Download	Comment	View invoice
18 Sep 2025	SI-008	Joe Bloggs Architecture	€338.90	Draft				View

## 02. Adaptive approach

Desktop and mobile users have different needs. On larger screens, the design supports "scanning and comparing" through a structured row-and-column layout. On mobile, where vertical space is limited, the experience is optimized for "deep-diving" into single elements.

To solve the responsiveness issue, we transitioned from a rigid table structure to a **fluid card-based layout**. Using a Flexbox-driven layout allowed us to seamlessly wrap and reorder elements across viewports.

We didn't just resize components; we implemented **content prioritization logic**, dynamically showing or hiding elements based on the device. This adaptive strategy ensured a streamlined, mobile-optimized experience where information density is always perfectly balanced for the user's context.

Date	Invoice	Customer	Amount
20 Sep 2023	SI-012	Joe Bloggs Architecture	€338.90
Unpaid	Edit	View	

Date	Invoice
20 Sep 2023	SI-012
Customer	Joe Bloggs Architecture
Amount	€338.90
	Unpaid
	Actions

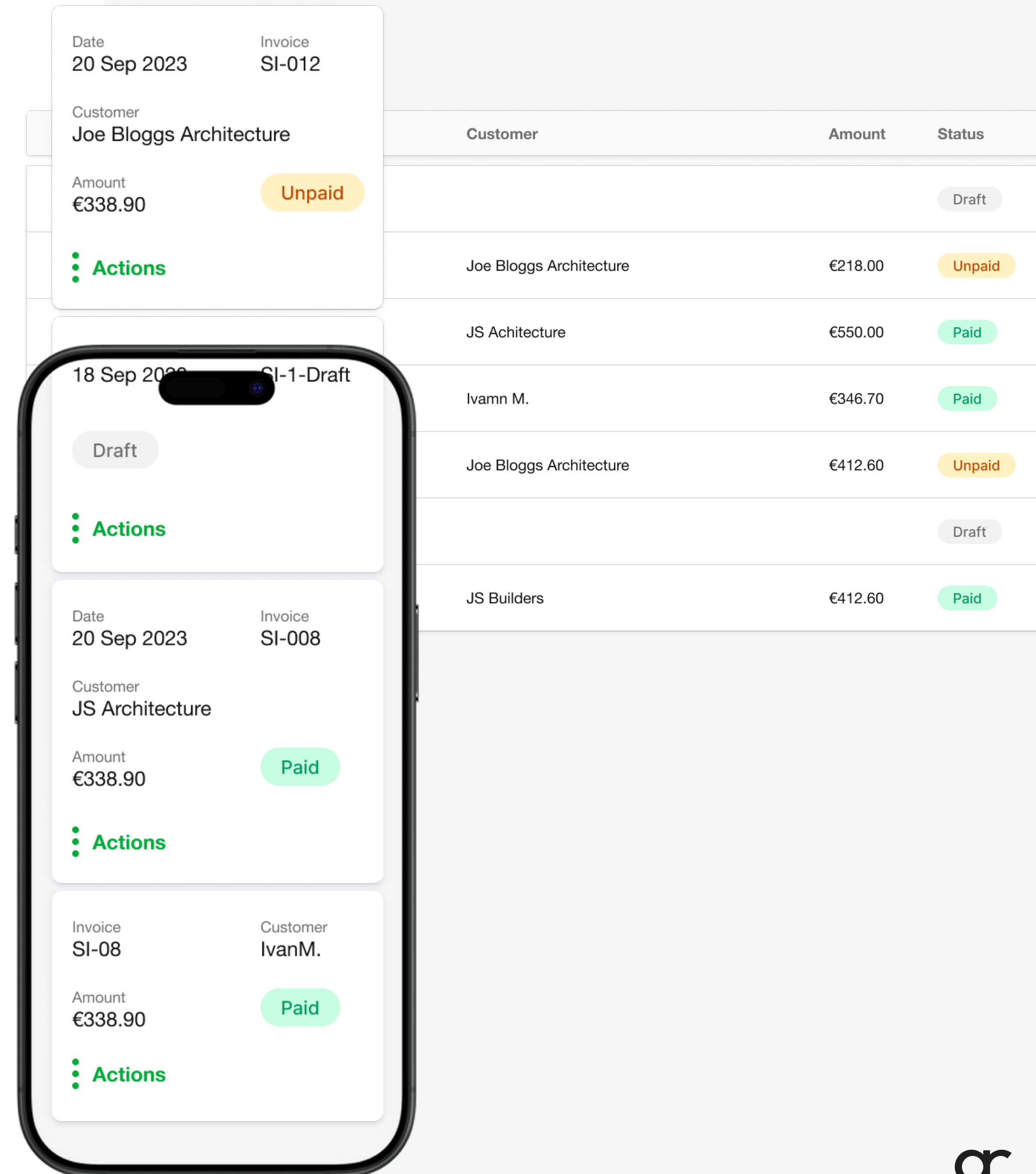
## Sage | Responsive table

### 02b. Adaptive approach

On desktop, the primary user goal is data comparison. We focused on **precise alignment and visual hierarchy** to facilitate efficient scanning across rows and columns.

Conversely, on mobile, the focus shifts to the granular details of individual items. To adapt to this shift in intent, we **transformed table headers into descriptive item labels** within a card-based layout.

To maintain a clean interface, we implemented logic to **handle empty states**: while empty fields remain visible on desktop to maintain grid integrity, they are completely hidden on mobile to maximize screen real estate and reduce noise.



## 03. Results & Validation

Prior to launch, we conducted four rounds of usability testing to validate our design decisions and refine the invoicing experience. The resulting interface is clean, intuitive, and highly optimized for user efficiency.

- Usability: **0 discoverability issues** reported during user testing.
- Accessibility: **Full compliance with WCAG standards.**
- Scalability: The component was **adopted into our Design System** as the primary reference for all future product tabs and data-heavy interfaces.

# Key learnings and takeaways

### **Bridging the Gap Between Design and Architecture**

Mastered a Service Blueprints when navigating complex backend constraints. By shifting to a modular, settings-based design approach, I kept the front-end customization engine performant and stable, without requiring a full backend overhaul.

### **Scaling Impact Through Systems Thinking**

The best solutions benefit the entire ecosystem. By partnering with the Design System team to create reusable components like the mobile navigation bar and invoicing elements, we improved consistency and quality across all Sage products, not just a single module.

### **Inclusive Design as a Business Requirement**

Integrating accessibility checks into the workflow wasn't just about compliance; it was about conversion. By ensuring 100% WCAG 2.2 adherence for user-generated content (like invoice branding), we reached a broader demographic of sole traders and achieved **zero accessibility issues** during the final audit.

### **Leading design stream & Stakeholder Collaboration.**

As Principal Designer, I led the design team and acted as the primary point of contact for all stakeholders. I ensured smooth communication across Product, Engineering, Architecture, and Marketing, while orchestrating the team's work to deliver aligned, high-quality outcomes.