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Enhancing the Visibility of Handicraft-Based MSMEs through Strategic Web Design

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ABSTRACT

This study aims to develop a strategic web design approach for micro or small enterprises focusing on workshop-based creative industries, using FGH (an enterprise specializing in handcrafted shibori techniques) as a case study. The research adopts a design thinking approach, encompassing five stages: empathize, define, ideate, prototype, and test. Data were collected through interviews and observations involving the business owner and potential customers. Two key personas emerged: "The Curious Creative" and "The Craft Entrepreneur," with the design focus on the latter. During the define stage, user needs were synthesized using the empathy map, Customer Journey Map (CJM), and Value Proposition Canvas (VPC). The ideate phase involved collaborative brainstorming sessions guided by the five dimensions of experiential marketing: sense, feel, think, act, and relate. Ideas were then validated with stakeholders for relevance and feasibility. The findings reveal a demand for a digital platform that not only provides workshop information but also supports learning processes, community engagement, and access to an alumni marketplace. This research contributes to understanding user-centered digital strategies for creative micro-enterprises, particularly those offering experiential-based services.

Keywords
Creative Industry
Design Thinking
Digital Platform
Handicraft MSMEs
Shibori Workshop

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Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the economic development of Indonesia, contributing significantly to employment and national income[1]. As of 2022, the number of MSMEs reached approximately 66 million units [2]. Among various sectors, the creative economy stands out, contributing over IDR 1,100 trillion to the national GDP in 2020, with the *kriya* (craft) sub-sector, alongside culinary and fashion, being the most prominent [3].

Digital technology has transformed how consumers interact with products and services. Today's consumers seek not only high-quality goods but also meaningful experiences. Creative industries such as handicrafts have a distinct opportunity to deliver added value through experiential offerings like workshops and skill-based training. Despite this potential, many MSMEs in Indonesia still face considerable challenges in competing within the digital landscape. Although digitalization is a key factor, its adoption among MSMEs remains relatively low. In 2020, only 13% of MSMEs had adopted digital platforms, a figure that rose modestly to 16% in 2021 in response to the pandemic [4].

Prior studies have highlighted the crucial role of digitalization in the growth of MSMEs. Daniel et al. [5] noted that while MSMEs have started adopting e-commerce, the benefits remain limited. Similarly, Odoom et al. [6] found that MSMEs for brand development and marketing strategies underutilize social media. Lányi et al. [7] although many MSMEs are familiar with digital tools, they have yet to integrate them into their business models fully.

Among various digital tools, websites remain a strategic asset for creative enterprises. Unlike social media or marketplace platforms, websites offer complete control over content, appearance, and user interaction. They enable integrating essential features such as galleries, workshop schedules, registration forms, testimonials, and educational content that enhance brand image, according to Çetin et al. [8], websites play a crucial role in MSMEs' digital transformation and market expansion. Thompson et al. [9] further reported that MSMEs with active websites tend to experience better growth, and Thongmak [10] emphasized that website quality has a direct impact on business value and success.

However, despite these opportunities, creative enterprises face significant challenges in the digital era, particularly in navigating highly competitive online markets. Thousands of brands compete for consumer attention, necessitating strong product differentiation and strategic marketing approaches [11]. Furthermore, digital transformation demands that enterprise revise their business models, including the digitization of operational processes [12]. One strategic step for handicraft-based MSMEs is to develop a dedicated website tailored to their unique offerings.

This study focuses on FGH, a micro-enterprise engaged in textile crafts using shibori and eco-print techniques. It was established in 2020 and is based in Yogyakarta, a city known for its cultural richness and academic environment. FGH specializes in shibori and eco-print techniques, offering creative workshops and selling tools, materials, and handmade products. As a newly established business with limited digital capacity, the owner manages all operations manually. Its educational and sustainability-oriented approach aligns with current global trends and meets the emerging demands of today's conscious consumers.

Art and handicraft workshops have become increasingly popular in Indonesia in recent years, offering, like FGH, a valuable opportunity to build stronger customer connections. These workshops serve as educational platforms and foster emotional engagement and brand loyalty. To address these challenges and opportunities, this research employs a Design Thinking approach, a user-centered and iterative technique that includes five stages: empathize, define, ideate, prototype, and test [13]. This method is particularly suitable for website development, as it emphasizes empathy with users and continuous refinement based on feedback [14]. Through methods such as semi-structured interviews, MSMEs can enhance both the usability and user satisfaction of their digital platforms [15]. Design Thinking also supports the creation of unique designs that reflect brand identity and adapt to changing user preferences [16]. For handicraft-based MSMEs, this approach ensures that website design aligns with their products' aesthetic and creative nature.

Additionally, this study incorporates Schmitt's [17] Experiential Marketing Theory outlines five dimensions of consumer experience (sense, feel, think, act, and relate) as a conceptual foundation for designing digital interaction and content. By integrating Design Thinking with Experiential Marketing, the developed website aims to deliver sensory, emotional, cognitive, behavioral, and relational experiences beyond mere information delivery.

Accordingly, this research aims to design a strategic website for a handicraft MSME with a workshop-based business model by applying the Design Thinking framework and Experiential Marketing theory to meet user needs and enhance customer experience.

Materials and Methods

A. Empathize

Empathize is the first stage in design thinking, which involves building a deep understanding of the users targeted by the solution. Empathy serves as the foundation of human-centered design [18]. Qualitative data were collected at this stage to understand the problems and needs of the business owners and potential users. The research utilized in-depth interviews with two key groups:

- The MSME owner is the primary decision-maker responsible for business direction and potential website integration.

- Potential customers, individuals interested in eco-friendly products, and hands-on handicraft experiences.

The owner interview was conducted face-to-face for approximately 60 minutes at the business location, enabling direct observation of the operational context. Interview questions explored business history, digital readiness, workshop promotion, desired website features, and digital engagement. Customer interviews were conducted online via Zoom, lasting 60–70 minutes. Three participants were selected using purposive sampling, based on demographic alignment with the enterprise target market: women aged 25–50 with internet access and interest in eco-friendly crafts. Purposive sampling was used in the study to choose participants who were customers and fit the website's target user profile. Rich and insightful data were ensured by the researcher's deliberate selection of participants with relevant experience and interest in eco-friendly handicraft workshops through this non-probability technique. This strategy supports the objectives of Design Thinking's empathize phase, which prioritizes in-depth comprehension of user needs over statistical generalization. The interview questions explored key themes such as user motivation, digital behavior, emotional responses, and expectations regarding digital platforms. These insights informed the development of user personas, customer journey mapping, and feature ideation. See Table 1.

Table 1. Qualitative Instrument Blueprint (Empathize Stage)

No.	Construct	Item Example	Target	Theoretical Aspect
1	User Motivation	What is your main reason for joining the workshop?	Customer	User Persona
2	Website Expectations	What features do you expect to find on the workshop website?	Customer & Owner	Customer Journey Map – Consideration
3	Emotional Experience	Did this workshop give you emotional satisfaction?	Customer	Experiential Marketing – Feel
4	Business Needs	What do you expect from the website to support your business?	Owner	Value Proposition Canvas
5	Digital Behavior	Have you ever accessed workshop info online?	Customer	Customer Journey Map – Awareness

B. Define

This phase transformed the qualitative data gathered during interviews into actionable design insights using various analytical tools. The process began with a stakeholder analysis, where all relevant actors were mapped based on their roles, interests, and levels of influence using a Power-Interest Grid [19]. This ensured that both the customers' expectations and the operational requirements of the enterprise owner were adequately considered in the final website strategy. Following this, user personas were developed from customer interview data to represent typical users. These personas encapsulated key attributes such as motivations,

frustrations, goals, and behaviors, providing a human-centered reference for guiding design decisions throughout the project. Empathy maps were then constructed to deepen user understanding [20]. These visual tools captured what users saw, said, did, heard, thought, and felt during their interactions with handicraft workshops, effectively surfacing their underlying needs and pain points. Complementing this, a Customer Journey Map (CJM) was created to trace the user's whole experience starting from initial awareness of the workshop, through the registration and participation process, and into the post-event phase. This mapping process revealed emotional highs and lows and key touchpoints, offering valuable insights into how the website could enhance the customer experience. Finally, the empathy maps and CJM insights were synthesized into a Value Proposition Canvas (VPC), translating user pains into actionable needs and defining specific value elements the website should deliver [21]. This tool served as a strategic foundation for identifying and prioritizing the core features to be included in the website prototype.

C. Ideate

Based on insights gained during the define phase, the ideation phase aimed to generate a wide variety of innovative solutions. The business owner and three customer informants from the empathize phase participated in a group brainstorming session at the FGH workshop. Brainstorming was employed as a creative problem-solving technique to generate diverse ideas by encouraging participants to contribute freely without immediate judgment, thereby fostering a free-thinking environment that enhances divergent thinking. This method is particularly valuable in design thinking because it promotes collaboration, stimulates innovation, and enables unexpected yet valuable solutions to emerge [22].

After introducing the user personas and main pain points, the group engaged in a brainstorming exercise where each participant independently contributed ideas, reviewed, and developed them within the group. Participants used dot voting to rank the ideas, giving features weights according to perceived usefulness, relevance, and viability. After that, the chosen concepts were categorized into functional groups, including portfolio building, community engagement, learning resources, business support, and registration. Schmitt's five dimensions of experiential marketing—sense, feel, think, act, and relate—were mapped to each suggested feature to assess its experiential value. This ensured that the user experience would consider cognitive, emotional, and behavioral engagement.

D. Prototype

Based on the prioritized ideas, a digital prototype was developed to simulate user interaction with the website. Several essential features aligned with user needs were incorporated into the design. The prototyping process involved:

- Structuring and categorizing website features into logical menus,

- Designing a site architecture that supports intuitive navigation, and
- Creating interactive mock-ups using Canva, which allowed users to click through pages via hyperlinks. Although not fully functional, this low-fidelity prototype effectively communicated the website's interface, layout, and user flow.

In this process, particular attention was given to both User Interface (UI) and User Experience (UX). The UI aimed to deliver a clean and engaging layout that reflects the brand identity, incorporating consistent visual elements, clear typography, and intuitive navigation [22]. Meanwhile, UX focused on ensuring seamless user interaction by minimizing friction and making key features easy to locate and operate [23]. This dual emphasis ensures the prototype is not only visually appealing but also functional and user-friendly for its target users.

E. Test

The testing phase assessed the developed prototype's usability and user acceptance using qualitative and quantitative techniques. First, seven respondents, including business owners, participated in usability testing. As they completed everyday user tasks and interacted with the prototype, participants' navigational patterns, problems they faced, and unplanned comments were closely watched and documented. This procedure was essential for identifying usability problems and evaluating the interface's intimacy. The Feedback Capture Grid was utilized to further organize the information acquired. By grouping user responses into four categories (likes, criticisms, questions, and ideas), this tool can analyze user impressions methodically and spot trends that could lead to design enhancements. Lastly, the participants answered the System Usability Scale (SUS) questionnaire (see Table 2), a well-known tool that rates usability perceptions on a scale from 0 to 100. We define excellent usability as a score of 85 or higher, good usability as a score of 70 to 84, and areas for improvement as less than 70. The prototype's success can be measured quantitatively using the SUS results, which help priorities future iterations [24].

Results

A. Empathize

The empathize phase is the initial step in the design thinking process, aimed at gaining a deep understanding of stakeholder needs, expectations, and experiences. This phase of this study investigates the expectations and experiences of essential stakeholders through direct observation and in-depth interviews. The enterprise owner (owner of FGH) and prospective user representing the workshop's target market were interviewed. This procedure aimed to capture the motivations, challenges, and preferences of enterprise owners and users in engagement. A structured one-day collaborative brainstorming session was conducted at

Enterprise FGH's meeting room to facilitate ideation. Offline workshop sessions and observational data were also gathered at the company's location.

Table 2. SUS Instrument Items and Constructs

No.	Question	Construct
1	I think I would like to use this website frequently.	Perceived Usefulness
2	I found the website unnecessarily complex.	Ease of Use (Negated Item)
3	I thought the website was easy to use.	Ease of Use
4	I think I would need the support of a technical person to be able to use this website.	Learnability (Negated Item)
5	I found the various functions in this website were well integrated.	System Integration
6	I thought there was too much inconsistency in this website.	Consistency (Negated Item)
7	I would imagine that most people would learn to use this website very quickly.	Learnability
8	I found the website very awkward to use.	Comfort (Negated Item)
9	I felt very confident using the website.	Confidence
10	I needed to learn a lot of things before I could get going with this website.	Learnability (Negated Item)

Scale: Likert from 1 to 5

It was evident from these discussions that the enterprise FGH is based on the principles of sustainability and education. The owner emphasizes that premium materials and a distinctive production process are essential strengths that set the company apart from competitors. The company uses shibori and eco-print techniques to create handmade goods. In addition to selling goods, the proprietor strongly desired to educate others through workshops, focusing on homemakers and those launching small enterprises. The owner's conviction that creative abilities can empower people on a personal and financial level is reflected in this educational mission.

The owner also strongly desired to increase the company's online visibility. A website is thought to help expand the brand's reach, give it a more polished appearance, and provide a platform for working with other companies that are similar to it. The website's owner also had practical features in mind, like showcasing product and service details, making it simple to register for workshops, integrating with social media, enhancing customer communication, and providing access to online and offline workshop materials. The website is anticipated to contribute to a long-term increase in customer visits, workshop participation, and tool and finished product sales. This implies that the website is viewed as a strategic platform for expansion and a promotional tool.

From the user side, interviews were conducted with three participants from different age groups and backgrounds: a 24-year-old office worker, a 20-year-old university student, and a 53-year-old homemaker. Their motivations for attending workshops varied from relaxation and hobbies to skill development and entrepreneurship. This suggests that handicraft

workshops serve recreational but also functional and economic purposes, especially for individuals in productive age groups.

The interviews revealed that most respondents discovered workshops through social media platforms like Instagram and TikTok, while peer recommendations and community endorsements played a complementary role. This underscores the importance of visual appeal and digital content in attracting potential participants. Workshop delivery preferences leaned strongly toward offline and hybrid formats, citing comfort in real-time interaction and the ability to ask questions directly as key advantages.

Participants identified content quality, instructor competence, and pricing as primary considerations when selecting workshops, demonstrating a mix of rational and emotional decision-making. Challenges reported included limited online learning materials, overcrowded sessions, and reliance on social media as the sole information channel. These gaps highlight service limitations that could be addressed through an integrated digital platform.

Despite these challenges, respondents expressed positive attitudes toward a dedicated website, recognizing its potential to offer clear information, easy registration, access to materials, user-friendly galleries, community forums, and even marketplaces. These findings affirm the need for a user-centered design approach in website development and provide a foundation for identifying user needs, barriers, and expectations in the next phase. Incorporating these insights ensures that the digital solution will be relevant and impactful for the business and its customers.

The business owners' and potential users' responses provided insightful information about expectations, problems, and goals. Together, they helped define user personas and match the website strategy with the needs and experiences of the real world, laying the groundwork for the following step of the design process.

The empathize phase revealed the motivations and expectations of the business owner and potential customers. The business owner expressed a strong desire for digital transformation, particularly through a website that could serve as a promotional tool and an educational and collaborative platform. She explained, "*Saya ingin website ini tidak hanya menampilkan produk, tapi juga menjadi tempat belajar dan membangun komunitas*" (“I want the website to not just showcase products, but also be a place to learn and build community”). From the user's perspective, workshop participants generally expressed interest in learning new skills, relaxing activities, and entrepreneurial goals. However, they also noted the limitations of relying solely on social media. One respondent shared, "*Saya ikut workshop ini karena ingin rileks dan belajar hal baru. Tapi informasi yang saya dapat dari Instagram kurang lengkap*" (“I

joined the workshop to relax and learn something new. But the information I got from Instagram wasn't clear enough"). These qualitative findings indicate the need for a centralized and informative digital platform.

B. Define

The define phase in the Design Thinking process defines a clear and focused problem statement based on the insights collected during the empathize phase. This stage is essential to determine users' core needs and translate their pain points into design opportunities that can guide ideation. This study's definition process involved synthesizing user interviews and observations into structured tools, including a User Persona, Empathy Map, CJM, and a VPC.

1. Stakeholder analysis

The interviews revealed seven stakeholder groups involved in the operation of MSMEs FGH. These include: (1) the owner, (2) part-time staff, (3) the customers, (4) suppliers, (5) associations or communities, (6) collaborative partners, and (7) production partners. The roles and influence of each stakeholder were mapped using a Power-Interest Grid (Fig. 1), providing insights into their level of involvement and impact on website development decisions.

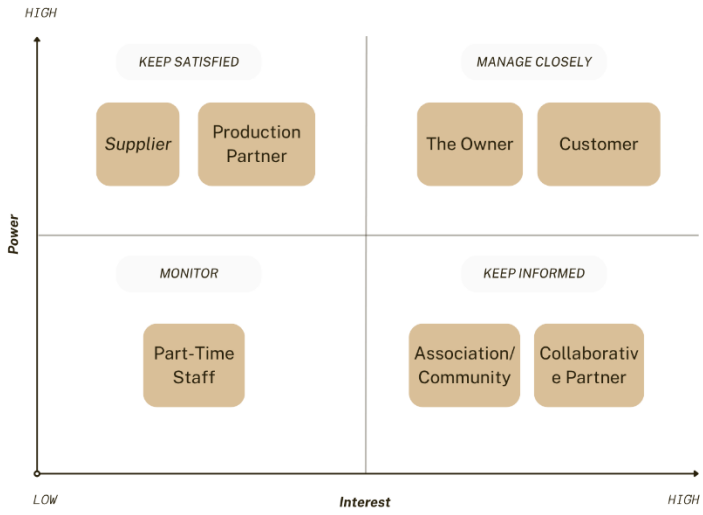


Fig. 1. Enterprise FGH Stakeholder Analysis

According to the analysis, the owner and customer were the main stakeholders in the Manage Closely quadrant. Both are very interested in the project and have a lot of power. Customers are the end users who will interact with the website, and the business owner is the primary decision-maker and visionary behind the enterprise. At every step of the design thinking process, but particularly during needs analysis and solution testing, active participation from both groups was valued.

Other stakeholder groups were mapped as follows: community members and guest instructors were categorized as Keep Informed because they were interested in the

workshop activities but lacked decision-making authority; suppliers and production partners were placed in the Keep Satisfied quadrant because of their operational significance but limited influence on the digital platform; and internal staff were included in the Monitor group because they could offer input on operational aspects.

To ensure that the website design remained user-centered and based on real needs, data collection for this study concentrated on the two most pertinent and significant stakeholders: the business owner and customers. The owner's viewpoint was essential in ensuring that the platform matched the company's goals, and user feedback influenced functionality, usability, and the clarity of the content. Thanks to this targeted, collaborative approach, the final solution was guaranteed to benefit the service provider and the end users.

2. User Persona

Based on interviews and survey validation, two dominant customer personas were identified: Maya "The Curious Creative" and Lavi "The Craft Entrepreneur". Maya represents users driven by personal satisfaction and recreational value, while Lavi embodies users with business-oriented goals and a desire to enhance their skills and product value. These personas were validated by responses from 37 customers who answered questions regarding their motivations, learning preferences, and workshop expectations. Most desired to learn new creative skills (The Curious Creative) or develop professional techniques (The Craft Entrepreneur).

While both personas provide valuable insights, this study focuses primarily on Lavi "The Craft Entrepreneur", as this persona was found to represent the majority of FGH's customer base. Lavi is a 40-year-old stay-at-home mother serious about building a handicraft business, particularly in eco-print and shibori. She prefers online workshops for flexibility and seeks experiences that offer business insights, skill enhancement, and community networking. The platform needed by users like The Craft Entrepreneur should provide in-depth, structured information, post-workshop support, and access to educational and entrepreneurial resources.

The user persona analysis highlighted two main profiles, focusing on "The Craft Entrepreneur", a persona representing business-driven learners. This segment seeks workshops that teach crafting techniques and provide insight into selling and marketing products. A respondent illustrated this need clearly:

> *"Saya berharap workshop ini bukan hanya soal keterampilan, tapi juga bagaimana cara menjual produknya"* ("I hope the workshop is not just about skills, but also how to sell the products").

This insight shaped the direction of the proposed website features to better support entrepreneurial development among craft learners.

3. Empathy Map

An empathy map was created for The Craft Entrepreneur to deepen the understanding of her thoughts, emotions, behaviors, and environment throughout her interaction with handicraft workshops. She is motivated by the need to acquire applicable skills and to connect with mentors and communities that support her entrepreneurial goals. She seeks workshops that combine crafting techniques with marketable business knowledge. The Craft Entrepreneur's pain points include a lack of post-workshop guidance, overly theoretical instruction, unclear promotional visuals, and a limited sense of community. On the other hand, her gains involve acquiring new skills, receiving feedback, and building professional relationships. This mapping helped identify specific areas where digital solutions could provide meaningful value.

4. Customer Journey Map (CJM)

The CJM outlines Lavi's (The Craft Entrepreneur) entire experience with a shibori workshop, segmented into three main phases: Pre-Workshop, During Workshop, and Post-Workshop. Lavi encounters unclear promotional content and insufficient workshop descriptions in the pre-workshop phase. Issues such as manual registration, lack of visual materials, and unstructured business content delivery during the workshop affect the overall experience. In the post-workshop phase, Lavi feels a gap in mentorship, unclear business application, and limited access to communities or advanced content. Despite these challenges, her emotional response remains positive, driven by satisfaction with her final products and eagerness to continue learning.

The CJM showed several pain points, especially during the registration phase. Most participants discovered workshops through Instagram and had to communicate manually to join. One respondent recalled,

> *"Waktu itu saya harus DM dulu buat daftar. Kalau ada form langsung di website pasti lebih enak"* ("I had to DM first to register. Having a registration form directly on the website would be much better").

This suggests a demand for automation and clarity for the user onboarding process.

Each stage in the CJM provided insight into specific digital touchpoints where improvements could be made. The example of CJM at the beginning step is shown in Fig. 2.

5. Value Proposition Canvas (VPC)

The VPC systematically translated The Craft Entrepreneur's (Lavi) pains and gains into actionable needs and solutions. A total of 21 pain points were identified, and corresponding user needs were defined. These included requests for post-workshop mentoring, complete workshop information, automatic registration and reminders, business-focused content, interactive showcases, and a more active community platform.

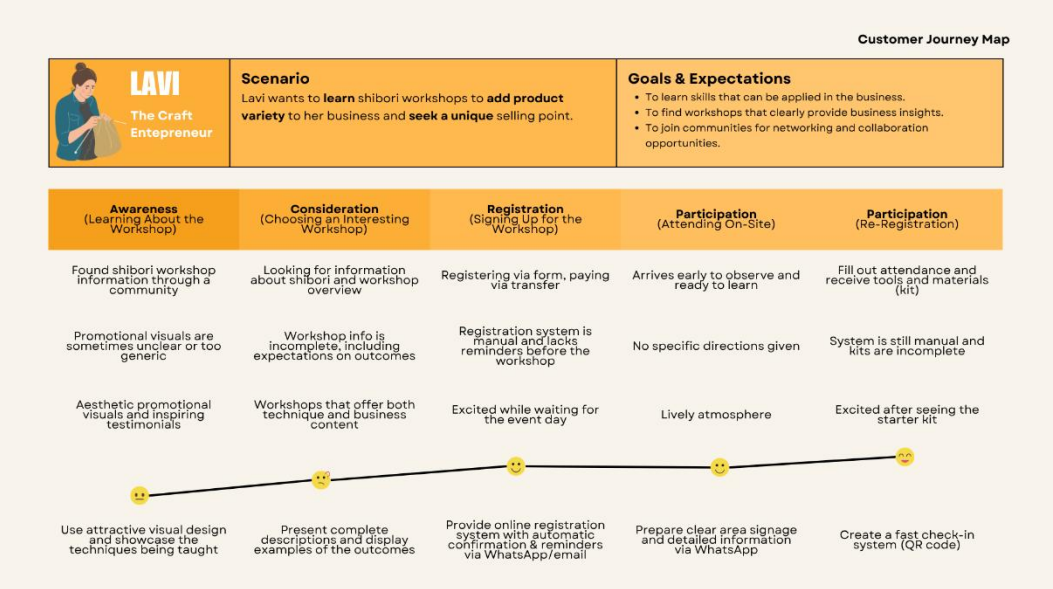


Fig. 2. CJM of The Craft Entrepreneur Persona

The user expressed the need for continued guidance in the post-workshop, such as mentorship or accessible follow-up channels. One participant explained,

> *"Setelah kelas selesai, saya masih pengen tanya-tanya lagi, tapi nggak tahu harus ke mana"* ("After the class ended, I still wanted to ask some things, but didn't know where to go").

This quote supports the development of community-based features and knowledge-sharing mechanisms in the proposed website. See Fig. 3.

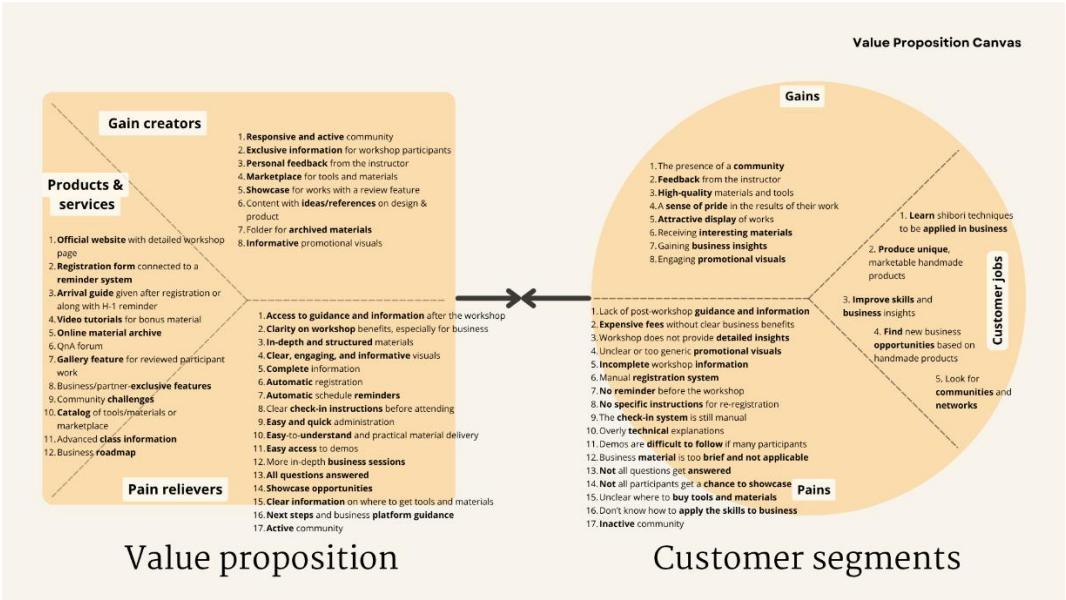


Fig. 3. VPC from The Craft Entrepreneur Persona

The right side of the VPC details how a well-designed workshop website could address these needs through pain relievers (e.g., detailed information, reminders, downloadable materials, access to business tips, active forums) and gain creators (e.g., feedback from instructors, showcase galleries, learning communities, and Q&A forums). Based on this, product features were proposed, including a dynamic workshop website, registration forms with reminders, onboarding guides, online archives, feedback systems, and a marketplace for tools and materials.

The VPC synthesis demonstrated that the website must function as an information hub and a platform for educational enrichment, emotional connection, and social engagement. This aligns closely with experiential marketing principles, emphasizing the importance of sensory, emotional, cognitive, behavioral, and social experiences in shaping customer value. The result is a user-centered value proposition that enhances both the functional utility and the emotional resonance of the digital experience.

C. Ideate

After identifying the challenges, the "The Craft Entrepreneur" persona faced during the define phase, the design thinking process progressed to the ideate phase. This phase aimed to develop creative yet feasible digital solutions that align with user needs and the enterprise's operational capacity (FGH). The ideas generated were based on the VPC, a reference for brainstorming website features, content structures, and user interaction flows tailored to a workshop-focused handicraft enterprise.

To facilitate ideation, a structured one-day collaborative brainstorming session was conducted at Enterprise FGH’s meeting room. The participants included the business owner, three prospective users aligned with the target persona, and the researcher as the facilitator. The session followed four systematic stages: (1) introduction to context and persona; (2) exploration of website solution ideas using a brainwriting technique, where participants generated ideas individually before grouping and voting; (3) prioritization and in-depth discussion of selected ideas; and (4) reflection and identification of potential development barriers.

The brainstorming produced a wide array of ideas, which were grouped into five categories: (1) Workshop Information and Registration, including detailed instructor profiles, automated registration with reminders, and filters based on skill level and goals; (2) Community and Post-Workshop Interaction, such as topic-based forums, Q&A with instructors, live chat, referral programs, and alums webinars; (3) Learning Resources and Self-Paced Content, including a participant dashboard, downloadable materials, and structured curriculum modules; (4) Showcase and Portfolio Development, offering galleries, digital certificates, and personal portfolios; and (5) Business Support and

Monetization, comprising an alum marketplace, pricing simulation tools, and tips for business development. These features reflected a strong expectation that users did not view the website as merely a registration portal but as a holistic platform supporting the complete learning and entrepreneurial journey.

A participatory dot-voting method was used to rank the proposed features based on their relevance, benefit, and feasibility. The five most highly voted features were: (1) an automated registration and scheduling reminder system; (2) a personalized participant dashboard; (3) community forums and peer-sharing sessions; (4) video tutorials and self-paced learning modules; and (5) an alum marketplace and materials catalog. These choices demonstrate a user preference for practical, integrated tools supporting education and business growth.

To assess the experiential potential of these features, the results were mapped using Schmitt's Experiential Marketing framework, which includes five dimensions: *Sense*, *Feel*, *Think*, *Act*, and *Relate* [17]. The analysis revealed a dominance of the *Think* and *Act* dimensions. For example, access to learning materials (Think) came in second, emphasizing the importance of ongoing intellectual engagement following workshops. At the same time, the automated registration system (Act) garnered the most votes, demonstrating a strong need for process efficiency.

Features that promote emotional connection and user pride, such as the interactive community forum (Relate), digital certificates (Feel/Think), and the participant gallery (Sense/Feel), also represent social and emotional experiences. Despite getting fewer votes, the fact that these were included shows how important it is to address psychological and social aspects of the user experience in addition to functional needs.

Potential implementation barriers were identified collaboratively in the final ideation stage, and corresponding mitigation strategies were proposed. These included concerns such as limited digital literacy, low user engagement, and technical limitations. Table 3 summarizes key features, challenges, and practical mitigation strategies to support sustainable implementation.

The analysis revealed that implementation challenges were not solely technical but also related to digital literacy, user readiness, and operational constraints. Three mitigation strategies were proposed to overcome these: simplifying interfaces for beginner users, providing onboarding and instructional support, and deploying features in modular stages according to user preparedness. These approaches are expected to ensure smooth adoption and maximize long-term engagement with the platform.

Table 3. Mitigation Strategies for Website Feature Development

Feature	Potential Barrier	Mitigation Strategy
Participant Dashboard	Limited technical capacity of MSME; unfamiliarity with digital workflows	Use simple UI; provide onboarding tutorials
Community Forum & Q&A	Low user engagement; need for active moderation	Enable notifications; recruit alum moderators
Auto Registration & Reminders	Low digital literacy; calendar syncing issues	Offer WhatsApp/email reminders; create simple usage guides
Tutorial Videos & Learning Modules	Poor internet connectivity; lack of experience with self-learning	Provide downloadable content; include illustrated materials for better comprehension
Alumni Marketplace	Participants not ready for e-commerce; logistical complexity	Start with a curated, non-transactional showcase phase; gradually develop full features

In summary, the Ideate phase successfully generated and refined a set of high-impact, user-centered digital features for a workshop-focused enterprise website. These ideas reflect user aspirations for a platform that facilitates efficient registration, ongoing learning, social interaction, and entrepreneurial support, laying a solid foundation for the next stage: prototype development.

D. Prototype

The prototype development phase began after completing the brainstorming session and feature classification in the ideation stage. The objective of this phase was to visually translate the prioritized ideas into an initial digital interface and navigational structure, aligning with user needs, the operational context of enterprise FGH, and user experience (UX) strategies. The resulting prototype was developed at low-to-mid fidelity, focusing on organizing information architecture and simulating user interactions based on user-centered design principles, particularly for the "Craft Entrepreneur" persona identified in earlier stages.

The prototype was structured to support a progressive and goal-oriented information flow, catering to users who seek structured learning, community involvement, and access to relevant business resources (See Fig. 4). The homepage was designed to offer an informative and welcoming interface, displaying the platform's benefits, alum testimonials, and sample works. Three primary Call-to-Action (CTA) buttons represented user pathways based on validated personas: "Explore Creative Workshops for Fun" (recreational users), "Learn & Build Your Craft Business" (business-oriented users), and "Browse & Shop Local Creations" (consumers). Each CTA functioned as an initial filter, guiding users into exploration paths aligned with their intent. While all three pathways were designed in the architecture, this study focused on the second pathway tailored for the Craft Entrepreneur persona.

Upon selecting "Learn & Build Your Craft Business," users were directed to a tiered program page, serving as a gateway to curated learning tracks and inspiration from past

participants. From here, users could proceed to two main areas: (1) a Workshop Page, which listed training programs by level (Beginner, Intermediate, Advanced), each described with its syllabus, expected outcomes, instructor profiles, and testimonials; and (2) an Alumni Marketplace, showcasing products made by former workshop participants, complete with creator profiles and product descriptions. This dual-path system was designed to promote learning and encourage practical application and business aspirations.

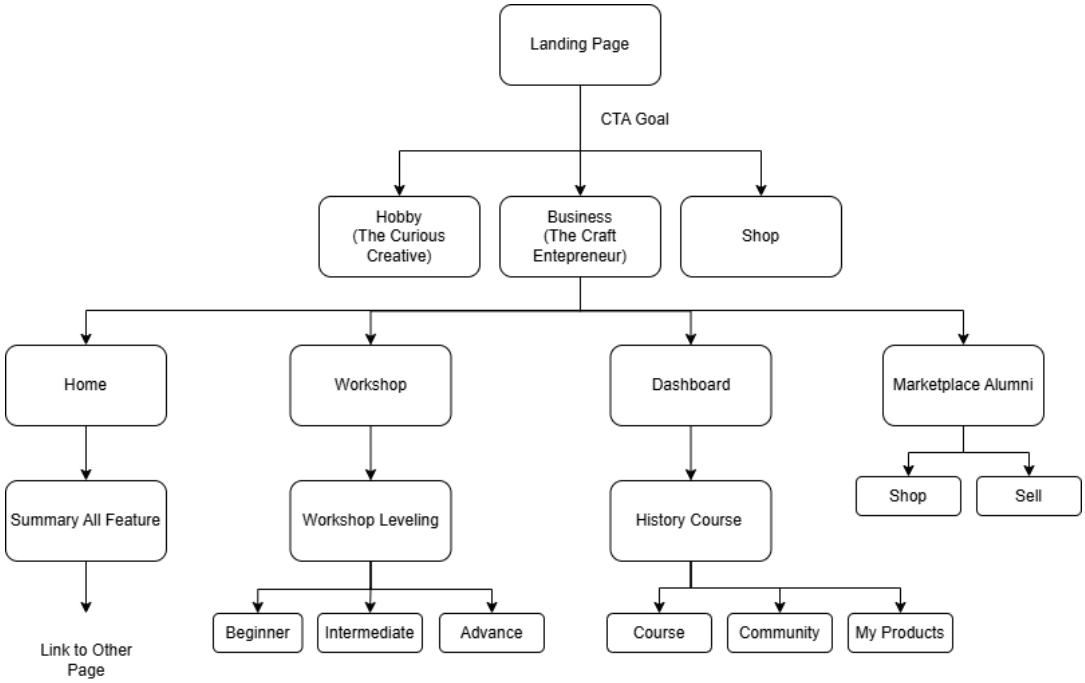


Fig. 4. Website Navigation Flow Based on The Craft Entrepreneur Personas

A personalized dashboard became the central engagement hub after registration for workshop participants. This dashboard, accessible via user login, allowed course tracking, material access, certification downloads, and even product submission for the alum marketplace. It was built using a role-based display approach, dynamically adjusting features according to the user's status (e.g., active participant, alumnus, or vendor). For instance, the Craft Entrepreneur persona accessed learning materials, product uploads, and business resources, while the recreational persona only accessed basic course features.

A separate community and alums forum was also designed as a key feature to foster peer-to-peer support and emotional engagement. Accessible only to registered users, the forum supported topic-based discussions and allowed users to post questions, share tips, or start new conversations. This social layer was critical in enhancing user retention and cultivating a sense of belonging within the enterprise FGH ecosystem.

With these structures in place, the navigational flow of the website emerged naturally, creating a hierarchical and intuitive pathway for user interactions. The information

architecture was logical and tailored to ensure that users could explore, register, learn, connect, and monetize in a seamless digital journey.

To support visualization, a low-to-medium fidelity prototype was created using Canva. While non-functional regarding backend programming, the design was interactive using hyperlinks, allowing users to simulate real navigation by clicking between pages. This format proved sufficient for usability testing, enabling evaluation of layout clarity, information flow, and user interface intuitiveness.

The prototype included five primary pages, reflecting the core interaction flow for the Craft Entrepreneur persona. First, the Landing Page welcomed users with CTAs and a summary of benefits, testimonials, and participant creations (see Fig. 5). Next, the Tiered Program Homepage guided users through headlines, workshop tiers, and the alum marketplace (Fig. 6). The Workshop Detail Page displayed comprehensive class information for beginner to advanced levels, allowing users to explore curricula, instructors, and past outcomes (Fig. 7).



Fig. 5. Landing Page View

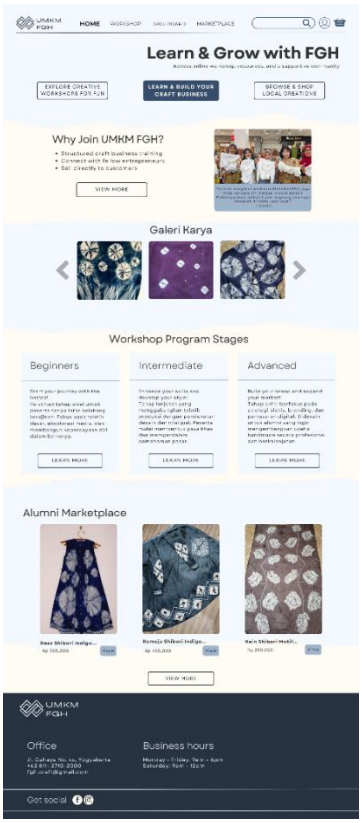


Fig. 6. Tiered Homepage View

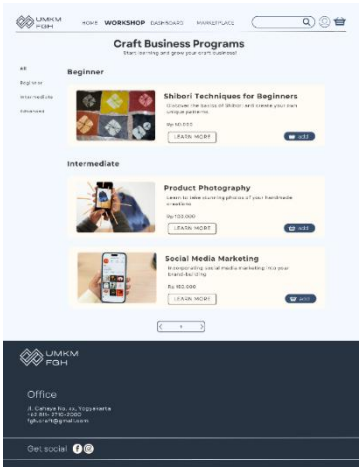


Fig. 7. Workshop View

The Alumni Marketplace Page showcased alum products with visuals, names, sizes, prices, and links to detailed views (Fig. 8), supporting product inspiration and sales. Finally, the User Dashboard was split into four tabs (*All*, *My Courses*, *Join the Community*, and *My Products*),

allowing users to manage their learning progress, engage with peers, and promote their creations (Figs. 8-11).

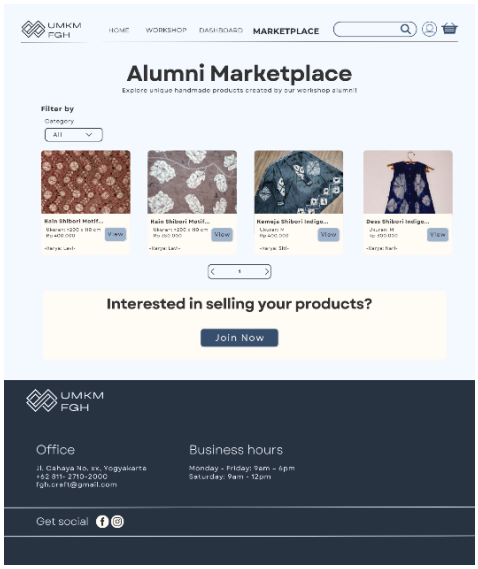


Fig. 8. Marketplace View

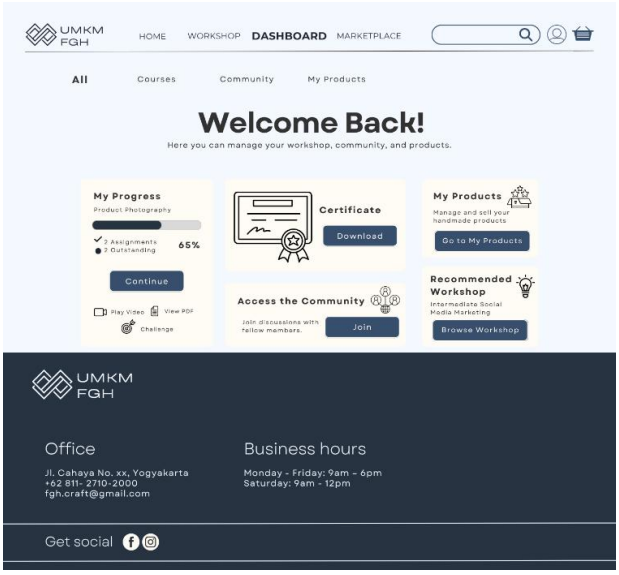


Fig. 9. Dashboard View

Each of these interfaces was built to reflect users' progressive learning and business goals while remaining flexible to enterprise FGH's operational capabilities. With structured navigation, educational depth, and monetization features, the prototype offers a strong foundation for usability testing and future development into a complete digital platform.

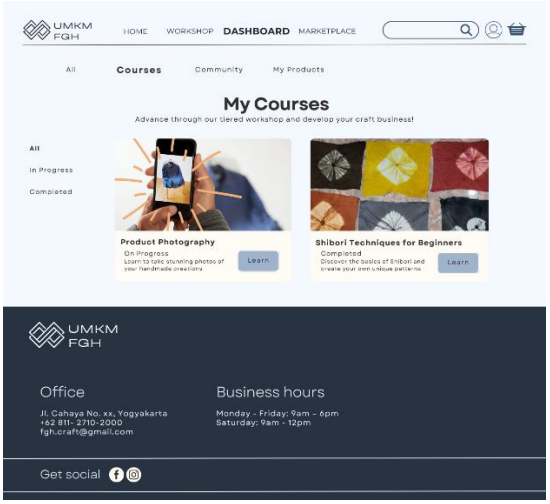


Fig. 10. My Courses View

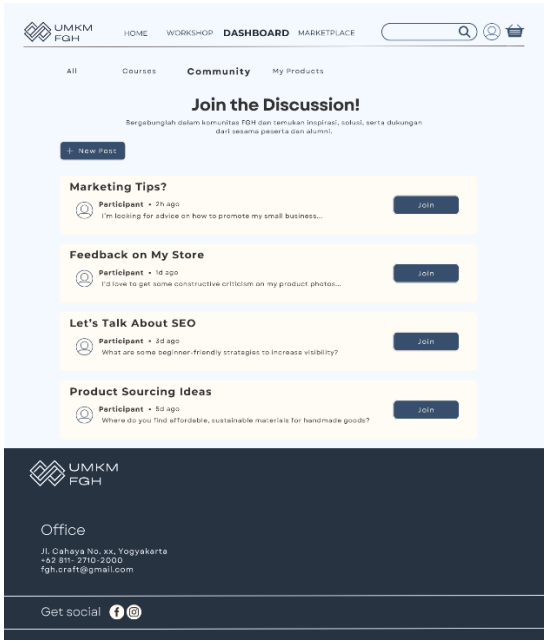


Fig. 11. Community View

E. Test

The testing phase was conducted to evaluate the usability of the enterprise FGH website prototype, with particular attention to navigational ease, interface clarity, and alignment with the needs of the target users, namely, handicraft practitioners motivated by entrepreneurial goals ("The Craft Entrepreneur" persona).

1. Testing Method and Procedure

A scenario-based usability testing method was employed using an unmoderated approach. Participants interacted with a high-fidelity interactive prototype and completed an evaluation form via Google Forms. This method allowed participants to explore the prototype independently while providing quantitative and qualitative feedback based on their experiences.

The testing process included the following steps: (1) preparation of materials, including the final prototype and digital evaluation forms; (2) distribution of test links to selected participants; (3) completion of predefined navigation tasks; (4) submission of responses through structured scales and open-ended reflections; and (5) analysis of both quantitative and qualitative results.

The testing was conducted remotely on June 10–11, 2025, with each session estimated to take 15–25 minutes. Five participants were purposively selected, representing individuals involved or interested in craft-based entrepreneurship. All participants were instructed to assume the role of the Craft Entrepreneur persona, following user scenarios that involved learning progression, accessing training content, engaging with community features, and utilizing the marketplace.

2. Testing Results

Navigation Testing involved five core tasks, each reflecting critical user activities on the platform. All five participants completed all assigned tasks, achieving a 100% success rate across the board. Users rated the ease of use for each task on a 1–5 scale, with average scores ranging from 4.14 to 4.57. Table 4 summarizes these results.

These results confirm that the prototype's overall navigation structure and feature placements were intuitive and accessible to users from varying backgrounds. However, minor feedback highlighted potential interface visibility and contextual clarity refinements, particularly for community-related and certificate features.

SUS Evaluation followed the navigation tasks. Participants completed ten Likert-scale items, which were then converted into SUS scores using the standard formula [24]producing values between 0 and 100. The average SUS score across participants was 84.6, categorized as "Excellent" [24]. Table 5 presents the detailed results.

Table 4. Summary of Navigation Testing Results

Task	Success Rate (%)	Average Ease Score (1–5)	Common Issues Noted
Finding learning progress	100%	4.43	It should also be displayed on the "Courses" page.
Accessing workshop recommendations	100%	4.57	It's relevant, but could be labeled as advanced/graded.
Accessing the community page	100%	4.29	The interface resembles a review, but needs to be more like an active forum.
Uploading products to the alum marketplace	100%	4.57	The flow is easy, but it's recommended to enlarge the button text.
Accessing digital certificates	100%	4.14	There should be a dedicated menu on the dashboard or a notification when it's available.

Table 5. SUS Scores

Participant	SUS Score	Category
R1	85.0	Excellent
R2	72.5	Good
R3	87.5	Excellent
R4	95.0	Excellent
R5	92.5	Excellent
R6	85,0	Excellent
R7	72,5	Good
Average	**84.6**	**Excellent**

This outcome affirms the prototype's high usability, as users reported confidence, ease, and satisfaction in operating the platform. Some lower scores emerged concerning terminology clarity and interface consistency, suggesting areas for visual or instructional improvement.

In addition to the numeric evaluations, participants provided qualitative feedback using the Feedback Capture Grid, categorized into: What Worked, What Didn't Work, Ideas for Improvement, and Confusions. The summary of this feedback is presented in Table 6.

Table 6. Summary of Feedback Grid Responses

Category	Summary of User Comments
What Worked	Simple and easy-to-understand design Color scheme, layout, and typography are sufficiently clear Progress tracking, alum marketplace, and community features are highly useful in a business context
What Didn't Work	The community page still resembles a review section rather than an active discussion forum Certificates are not prominently displayed
Ideas for Improvement	The community page still resembles a review section rather than an active discussion forum Certificates are not prominently displayed
Confusions	Add a Q&A feature with instructors Increase text size on some buttons Add testimonial categories based on classes The product gallery needs additional captions

These insights reinforce the quantitative findings and highlight the importance of enhancing user flow and clarity, particularly for socially-oriented features such as forums and alums interaction spaces. Although the platform is well-received overall, the feedback suggests refining interface semantics, button placement, and visual cues could improve usability in future iterations.

In summary, the usability testing validated the prototype's effectiveness and user alignment, achieving perfect task completion and a strong SUS score. The results also emphasized key areas for refinement that can inform the next development phase, transitioning from prototype to a fully functional, user-ready platform.

Conclusion

Based on the comprehensive research process, which included user need exploration through the empathize phase, problem formulation during define, participatory ideation, prototyping, and direct usability testing, it can be concluded that this study successfully identified the key stakeholders within the workshop-based handicraft MSME ecosystem, with the business owner and customers emerging as the most influential and involved actors. Two primary user personas were established: "The Curious Creative" and "The Craft Entrepreneur," with development efforts focused on the latter due to their need for digital tools that support learning and business expansion. The prioritized features developed include workshop registration, access to learning materials, alum community forums, product marketplaces, and learning progress tracking. Usability testing produced a strong SUS score of 84.6, indicating excellent usability and confirming that the prototype effectively addresses the expectations and requirements of the target users. This research contributes practical insights into user-centered website design for creative enterprises and highlights the value of design thinking in creating functional and impactful digital platforms.

Conflict of Interest

The authors declare that there is no conflict of interest.

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