

Collaborative Persona Development for User Experience Research With IKE

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Abstract

In a world where there is so much diversity amongst users, it can be challenging for companies, innovators, and technologists to understand user wants, needs, and intentions. This paper discusses not only the problems that technologists face when user needs are not addressed, but also provides a brief review of the evolution of Persona Development in our current climate. Specifically, this IQP contributes to an online platform (IKE) that facilitates and manages remote UX research.

Virtual UX research has become increasingly relevant and important as seen during the Covid-19 pandemic. During this crisis, people have increased their reliance on digital products and services to stay connected. Such an increase in usage of digital tools naturally calls for UX research to develop/improve these technological experiences. The COVID-19 pandemic, due to its social distancing requirements, forced researchers to focus more heavily on remote collaborations. The virtual platform that is discussed in this paper focuses on an important aspect of collaboration in UX research, namely persona development. Because UX driven innovation centers around user needs, collaborating on developing personas is essential in helping organizations to manage, organize, and evolve their understanding of their target markets.

Keywords

Persona Development • Group Decision Support Systems (GDSS), Virtual UX Research • User Experience • Design Decisions • Business Value of Design • Collaborative Persona Development

1 Introduction

1.1 Innovator's Challenge

As a technologist, designer, or innovator, one of the most critical questions one must ask is to whom you are creating a product, design, or utility for. Target audience and its need must be at the forefront of planning and design process. According to an article published by the Interaction Design Foundation, "Personas make the design task at hand less complex, they guide your ideation processes, and they can help you to achieve the goal of creating a good user experience for your target user group" (Dam and Siang, 2020). Successful technologies continuously fulfill their user's needs. A difficulty most technologists face here is that when they are in the creative process, they can unintentionally leave their target audiences behind.

Days, weeks, and even years can go by before complex technological problems can be solved. Throughout this process, technologists may unintentionally forget to pay close attention to their initial target audience. Many early stage companies may get stuck in this loop and sometimes they may have to start over and/or find a new direction. This is where the concept of pivoting arrives. Eric Ries states, “a pivot is a structured course correction designed to test a new fundamental hypothesis about the product, strategy and engine of growth” (Ries, 2015). For startups who don’t pivot, this can become a major problem because it can prohibit them from the rapid development of a successful minimum viable product. For designers and developers, pivoting can be demoralizing and exhausting because all that time spent designing may just get thrown out the window. For a large company, pivoting can be looked at as an unacceptable use of resources. All in all, developing effective ways to avoid these types of pitfalls is important in business development.

1.2 User Experience (UX) Research

User Experience (UX) research can address the above-mentioned problems. UX Research can play a major role in connecting the innovator back with their initial target audience. After all, UX research is all about understating the user, what they need and what are their goals; how do they interact with a technology and what do they expect from it (Jain et al. 2019, p. 5). A recent paper argues that in today’s digital economy, the best way to address the continual user need for technological innovation is to utilize the UX

driven innovation framework for product development (Djamasbi and Strong 2019, p. 223).

1.3 UX Driven Innovation

Given the innovator’s challenge and the available possible solutions within UX research, the User Experience and Decision Making (UXDM¹) lab at WPI² developed a software platform called IKE (Innovation Through Knowledge and Experience) to tackle some of these problems. IKE is grounded in the foundational work presented in a 2019 paper by two information scientists at WPI. The UX driven innovation (UXDI) framework states that to address the never ending cycle of user demand for innovative products and services, “we need new technology design models—ones that highlight UX as a driver of these innovative designs. Such new models benefit from examining technology design challenges through an innovation lens” (Djamasbi and Strong 2019, p. 217). The UXDI framework describes a “design world” where these models can assist designers and developers to create technologies that meet the users’ needs.

The innovation lens, as described in the UXDI framework, suggests that when designing a technological product/service, it is as important to pay close attention to the “usage world” as it is to consider the “design world”. In short, the design process must be grounded in user needs and informed by user behavior in the usage world.

The usage world measures the response of users and tracks general characteristics that come forth from analyzing how users interact with a given technology in an actual situation or context.

¹ UXDM lab: User Experience and Decision Making lab at WPI

² WPI: (Worcester Polytechnic Institute)

This realm, which complements the design world, is essential to user-centered innovation.

According to the UXDI framework, when organizations focus on understanding user needs in the design world, growth and returns on investments (ROI) will follow (Djamasbi and Strong 2019). With such a focal point on users, discovering innovation opportunities requires a deep understanding of consumer needs, in turn requiring qualitative UX research methods such as generative interviews and observations to create personas (Djamasbi and Strong 2019, Jain et al. 2019), which is the focus of this paper. With respect to the Innovation lens in the UXDI framework, persona development is key both in the design world and the usage world.

2 Personas

In UX research, personas are representative of a larger audience of users in the usage world (Jain et al. 2019). A persona can summarize and showcase many important characteristics of a specific user population that it represents, such as their behavioral tendencies, motivations, biases, etc. Personas are very useful in the design process because, when used appropriately, they can point out problems and needs that must be addressed in the early stages of planning and development process. As stated in a recent paper, “the representation of customer needs, challenges, preferences, and other characteristics via personas can help senior leadership to build consensus about market needs and thus help them to work more effectively together to address opportunities for innovation and other strategic goals” (Jain et al. 2019, pg. 1). As such, persona-driven work can have major impacts on the key performance indicators

(KPIs) that a company, or a group of developers/designers are targeting.



Figure 1: Example of a persona generated on a paper medium

2.1 Personas in IKE

As it pertains to IKE, as a UX research platform, having a feature for persona development is a priority. To design a novel product, major user archetype within the UX innovation design space (Djamasbi and Strong 2019) must be considered. Managing and sharing these personas for future innovations or collaborative work could be a great asset to an organization. Hence, IKE’s persona development feature was designed in a way to make it easy for teams to collaborate in building representative archetypes of their target market, whether face-to-face or virtually.

2.2 Remote Persona Development

The Covid-19 pandemic showcased a multitude of lessons that could be learned

and applied to the UX research process. Pre-COVID, a great deal of user research was done in-person. The COVID crisis, highlighted the advantage of having a UX research platform such as IKE, that could allow UX researchers to work together virtually both synchronously and asynchronously. In other words, IKE could be used in traditional work environments as well in the evolving future work environments (i.e., virtual workspaces) that is likely to continue even when social distancing is no longer a requirement.

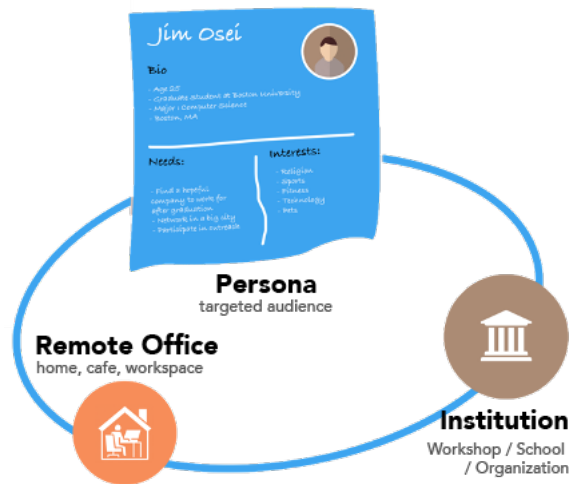


Figure 2: Diagram representing remote persona development platform connecting people working in two different locations (e.g., one at home and one in the academic institution) working synchronously or asynchronously on developing the same persona.

3 Development Background & Features

3.1 Persona Elements

Persona elements, in the context of IKE, refers to different components of a persona that form the defining characteristics of a persona. For example, Figure 1 displays a persona with three elements: Bio, Needs, and Interests. “Personas were popularized by Cooper³ as research-based fictional archetypes modeled from real users. Personas are descriptions of the target group(s) for the product under development, and they are created to avoid what Cooper et al. (2007) refers to as *the elastic user*⁴” (Korsgaard et al. 2020). When modeling an archetype, user characteristics such as needs, goals, motivations, etc. are summarized into different persona elements, which make personas useful to designers.

The review of IKE’s competitors suggests that persona development, in its current state, is very limited with regards to customizing persona elements. Persona elements typically are provided as textual information. However, the ability to communicate and summarize information in persona elements with different datatypes⁵ can not only enrich the visualization of provided information in persona element but also make such information more accessible for data analysis.

For example, assume a UX researcher needs to represent a persona’s passion for music through a quantifiable datatype, such as a scale or a range e.g., from one to ten. In this case a slider⁶ would be more effective

³ Cooper was the writer of *The Essentials of Design*, 3rd edition

⁴ The elastic user describes the concept where every developer has a different interpretation of the needs of a user.

⁵ “... datatypes can play a significant role in the development of software that is reliable, efficient, and flexible.” (Guttag, 1977)

⁶ A Slider is representative of an input range in HTML. Once created, a user can then

and user-friendly representation than textual information, e.g., expressing in a sentence how passionate the archetype feels about music.

In order to provide full flexibility (anticipating IKE users' future needs), persona elements' datatypes in IKE are not limited to text; rather it provide a full range of datatypes (such as sliders, text, numbers, and WYSIWYGs) for developing persona elements.

3.2 Persona Editor

IKE's Persona Editor facilitates the development of persona structure, that is, defining persona elements that best describe the provided information for a persona. Some organizations may prefer using persona templates (i.e., persona structures with a fixed set of elements) to standardize information communication among various teams. While such a policy may restrict flexibility, it can accommodate cross collaborations.

IKE's persona editor has three distinct sections: Metadata, structure design, and spectrum design. The Metadata section is broken up into three parts. The first part *status*, indicates the development stage of a persona (Draft, Review, Publish, Retired). The second part *Tags*, refers to type of persona (e.g., proto-persona, user persona, data persona). The third part *Snapshots*, refers to a specific saved version of a persona. More details on Tags and Snapshots are provided in sections 3.3.2, and 3.4. The Metadata section in IKE's persona editor facilitates communication of information that is important for cross collaboration and meta-analysis among of

personas developed by different teams in an organization (Figure 3).

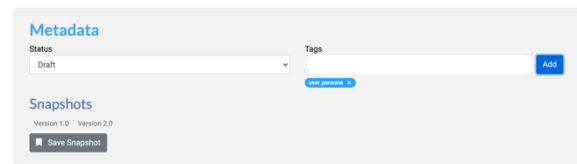


Figure 3: Snapshot of IKE's Metadata section of the Persona Editor. The screenshot includes the different versions (Snapshots) of the selected persona as well as its status and tags.

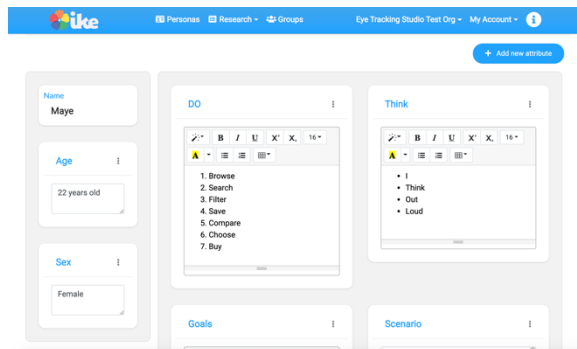


Figure 4: Screenshot of IKE's Structure Design Component of the Persona Editor, showcasing various persona elements of different sizes (width and length).

The second component of the persona editor is where the structure of a persona is designed by outlining various persona elements, as defined in section 3.2 of this document. With this component of persona editor, IKE users can create new persona elements, update an existing persona by modifying the content of its elements. IKE users can also change the visual structure of their personas by dragging and dropping them in different locations, and/or resizing the elements as they see fit (Figure 4).

visualize where a value truly is, with scale in mind.

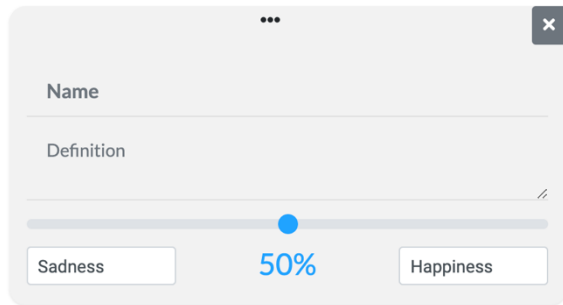


Figure 5: Example of a spectrum structure in IKE. Each spectrum must include a name, a definition, and a range with user defined endpoints (e.g., sadness and happiness)

The last major section of the Persona Editor is its spectrum design component. Using this component, IKE users can define spectrums for their personas. Spectrums refer to a set of non-binary variables that are useful to describe and compare personas that belong to the same set (e.g., the same project). Each spectrum includes a name, a definition (describing the exact meaning of the spectrum), and a range with two user defined endpoints (Figure 5).

IKE users can add spectrum to their personas by creating a new spectrum from scratch, or by retrieving an existing spectrum in IKE’s preexisting spectrums library that fits their project. They can also create a new spectrum from an existing one by modifying it.

3.3 Persona Management

A major objective of IKE’s persona development platform was to manage research efforts and facilitate inter-organizational collaborations. This section explains how this objective is achieved.

3.3.1 Persona Templates

A great example for persona management in IKE is Persona Templates. Following a standard structure when designing personas collectively makes collaborations more effective among various stake holders in an organization. For example, the marketing and human resources department could easily compare or adopt each other’s developed archetypes, if these personas follow the same format. Hence, IKE allows an organization to create a standardized template to be used by its members.

Templates can also be useful because they can reduce development time. As one could imagine, it is likely to take more time to create a persona from scratch than to update/modify the content of an existing one.

In certain use cases, take a class for instance, professors may have already defined what guidelines are necessary for creating new personas (and have created a template) and now are requiring students to develop personas for their course project with the professor’s predefined structure (template). Another example is a company that has already defined a set of persona elements at an organizational level, to accommodate cross collaborations among various departments.

This idea of templating, which was triggered by the need for standardization and efficiency, was introduced in this version of IKE.

3.3.2. Persona Tags

In addition to introducing Persona Templates, the ability to tag personas was

also implemented in this version of IKE. This idea of tagging is rooted in the notion that there are various forms of personas. Currently, personas can roughly be categorized into three major groups: 1) proto personas (which are assumption based), user personas (which are based on user research), and data personas (which refer to personas that are created from data-artifact typically generated in the usage world) (Jain et al. 2019, Djamasbi and Strong 2019). Persona Tags were developed to allow IKE users flexibility in specifying the type of persona that they intended to create.

Persona Tags in IKE also address the issue of Persona Retrieval⁷. Tagging helps IKE users to easily search for and retrieve personas in IKE’s persona library. Whether it be machine learning or data mining, metadata is very important, and tagging can accommodate such a future need for persona development (the persona search and retrieval will be implemented in the future iterations of IKE).

3.3.3 Persona Search

Another important persona management feature that was introduced in this version of IKE, is Persona Search, which is very important with regards to Persona Retrieval. As a UX research management platform, it is important for IKE to allow its users⁸ to have the ability to sort and fetch specific personas (Figure 6).

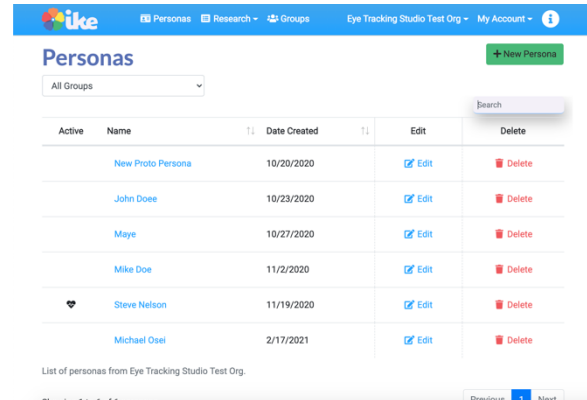


Figure 6: Snapshot of persona listings within IKE. This view includes a search component that retrieves personas by name.

For instance, if IKE users want to see all of their personas that included an element with the title “love” how would they go about doing so? If IKE users wish to retrieve personas that have specific spectrums¹⁰ attached to them how would they go about doing so? The following sections, explain the groundwork that is completed in this IQP to set the stage for developing IKE Persona Search in future iterations.

3.4 Persona Snapshots

Persona Snapshots refer to the ability to take a snapshot of a persona in a specific period of time. This is an important feature because personas are living documents and change over time (Jain et al 2019). Persona snapshots allow IKE users to track their persona’s evolution over time by allowing them to both preserve a snapshot of their

⁷ Persona Retrieval: when given a list of personas there comes a time when users must go about finding a way to effectively sort, retrieve, or fetch a desired persona.

⁸ IKE has a hierarchical organizational layer that containerizes features based on licensing within the platform.

¹⁰ In IKE, spectrums are a feature that is embedded within personas that can be added alongside persona elements. These spectrums can make it very easy to represent qualitative elements. i.e., representing hope as a quantitative value.

personas and record and update the changes that are happening in user needs (Figure 7).

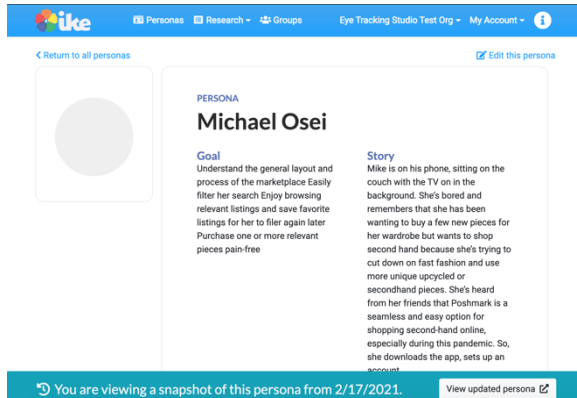


Figure 7: Screenshot of a previous version of this persona. This snapshot shows how users can also quickly view the current persona.

As a living document, personas are reflective of what happens in the real world. Individuals' needs do change over time and it is very important to account for this change to address anticipated needs. IKE addresses this problem by introducing snapshots.

In addition to documenting changes in user needs overtime, Persona Snapshots can minimize the consequences of accidental mistakes. Like most editors on the web, it can be fairly annoying if you accidentally delete something particularly when you have no means of going back in time to see something that was originally written by you. IKE removes that headache by allowing you to save Snapshots. Some programming software utilize autosave features to minimize information loss. In addition to autosave, IKE allows users to manually create their own snapshots and by doing so IKE allows its users to choose what they want to keep (e.g., if they want to

preserve significant changes in several distinct persona versions).

3.5 Competitor Analysis

This section provides the results of competitor analysis for IKE's persona development feature. Competitor analysis helped to identify innovation opportunities for IKE's persona development feature.

When looking at the landscape of persona development online, there were a few major competitors in the space. MCorpCX is one example of a commercially available tool for persona development. MCorpCX is an industry leader in this area (developing online personas) and has been around for over a decade.

MCorpCX separates itself from other competitors by having interactive web applications which allow their users to group projects, map personas, and organize them. This is similar to IKE in that they provide a good standard for persona management. Similar to IKE, MCorpCX also provides features that allow its users to export curated personas as PDF files. Unlike IKE which supports synchronous online collaborations, MCorpCX does not allow its users to work on persona development at the same time. Additionally, MCorpCX is not free, its median pricing range begins at \$99 per month.



Figure 8: A Snapshot of HubSpot webapp representing a persona via various persona elements.

Another company that provides persona development is Hubspot. Similar to MCorpCX and IKE, Hubspot has a web app that allows users to develop personas. Unlike MCorpCX, HubSpot is offered for free. HubSpot, facilitates persona development by asking the users a set of questions while MCorpCX lets users input data and information for persona elements directly via its webapp. Hubspot has a feature that allow its users to create a persona by answering 19 questions. In addition to this feature, Hubspot also provide templates that individuals can use to manually input their data. Templating, as we discussed earlier, is important for facilitating collaboration as well as efficient development of personas.

Another company that provides persona development is UserForge. While UserForge provide its users with free persona development, its persona

development capability offers only a limited number of features. Similar to templating in IKE and Hubspot, UserForge allows users to input data into preexisting template with predefined fields¹¹. UserForge provides limited methods for exporting developed personas. Despite these limitations UserForge offers a unique feature that allows avatar images to be randomly generated for personas (i.e., the user does not have to worry about inputting an image).

4 Design Process

4.1 IKE Design Process

When building a web platform there are several decisions that happen behind the scenes. Instead of designing solely for one specific use case, developers must keep in mind possible future iterations and how that affects the current product. Not only do developers have to be cautious of ecosystem-level changes, but they must also keep in mind issues related to system administration.

4.2 Development Stack

With regards to development, IKE is split up into a few buckets. There is server-side development, server-side deployment, database management, front-end development, and everything in between (Email management, Socket management, etc.). The stack in which IKE was developed begins with NodeJS (LaMarche 2020, p. 10). One can think of NodeJS as the powerhouse of the platform. The REST API,

¹¹ It is important to note that while IKE provides standardization through templating, it does not restrict the number, size, and types of persona

elements. In other words, IKE allows its users to design a template of their choosing using customized persona elements.

routes, routers, and all backend development is done with NodeJS.

NodeJS comes with several advantages. One of these advantages is that it gives the IKE development team the ability to develop JavaScript full stack. Traditionally, in web development environments people would have to develop their frontends in a language like JavaScript, and their backends in one like PHP for instance. The problem with this approach is that the developer ends up working with separate workflows and things can become complicated really quickly at scale. NodeJS solves this particular problem because everything can happen within the same environment and developers end up not having to switch back and forth between workflows. NodeJS is also very scalable and that was an important factor in developing IKE.

Along with NodeJS, IKE's database of choice is MongoDB (LaMarche 2020, p. 10). IKE utilizes a NoSQL database instead of the traditional SQL database. The use of NoSQL is advantageous here because it provides a non-relational style of documenting data. One major advantage is its speed and ease to scale. Traditionally with SQL databases, scaling can be a big task on its own. Making changes to pre-existing datastores can also pose major migration problems. Fortunately, the non-relational nature of NoSQL storage evades all of the above stated issues. For IKE, developing an environment that could change on the fly very quickly was very important in its developmental process. That is why IKE utilizes the power of NodeJS, Mongoose, and MongoDB.

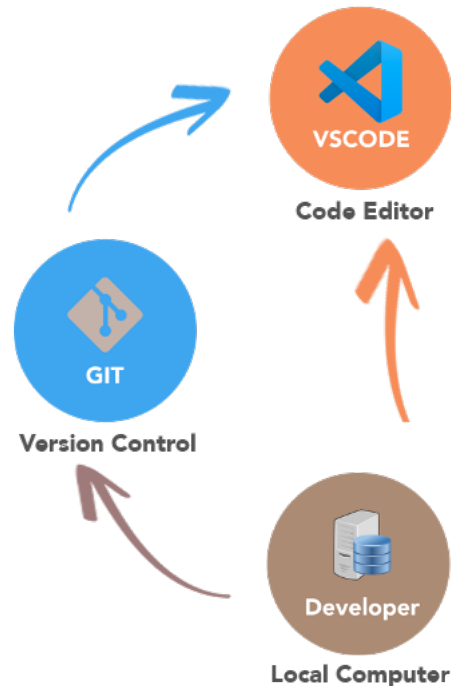


Figure 9: Workflow for DevOps (Development Operations) with IKE.

4.3 Development Operations

Designing a workflow that could maximize IKE's productivity was yet another major step in IKE's development. Continual growth of IKE's user base creates the need for expanding its development team and facilitating effective coordination and collaboration among the team members. There were several tools that the development team utilized for this purpose. Git was used by the development team to keep track of goals, milestones, tasks, issues, lifecycle changes, and even documentation at times. Along with Gitlab, the development team utilized Kanban boards to optimize the workflow.

4.4 Design Decisions

Developing online persona development brought about many challenges, and each design decision was made through brainstorming sessions. Due to COVID crisis, a great deal of the work including brainstorming and making design decisions was completed virtually. Some of the software that the development team used during this project included Adobe Photoshop, Adobe Illustrator, Adobe PowerPoint, and even IKE Whiteboards for brainstorming through zoom.

A difficulty in the development process was the design of a layout for IKE's persona editor, which required a balance between complexity and simplicity. With personas in general there are so many different layers involved in customizing a persona. Initially, it was important to take a first-principles approach of thinking (boiling things down to their most rudimentary form and reasoning up from there). To create an all-purpose layout that touches each base and use case, this type of reasoning seemed to be necessary.

At the start of this process, persona elements were the focal point. Each persona element was represented via a card. Hence, a masonry card layout seemed to be the best fit for most use cases that were considered for designing personas. However, because of its flat visual hierarchy, card design can lead to visual clutter when there are more than a few cards in the layout (Djamasbi and Hall-Phillips 2014). To avoid this problem, two separate columns were created, one for small items and one for items that had no definite size. This led to IKE's two-column redesign for the persona elements section of the persona editor.

4.5 Masonry UI

In masonry experiences (on the web) items in rows dynamically grow, in width, to fit in their parent containers almost like bricks fit nicely together in walls. Take a mason who is trying to securely build a wall, for example, he or she would have to validate that there were no gaps in-between bricks. Web UIs work similarly in abiding by the gestalt principles of continuity (UX UserTesting, 2016). If you wish to design something that is functionally and visually appealing, you would need to make sure that your UI avoids discontinuous gaps.

This was a major problem when deciding how to go about setting up the layout for personas in IKE. Personas in IKE required that their individual elements (cards) could grow dynamically, so users could enter as much information as they saw fit. Making persona elements grow dynamically while keeping the masonry look and feel was a design challenge that was solved by designing elements (cards) that had fixed widths but could grow in length by demand.

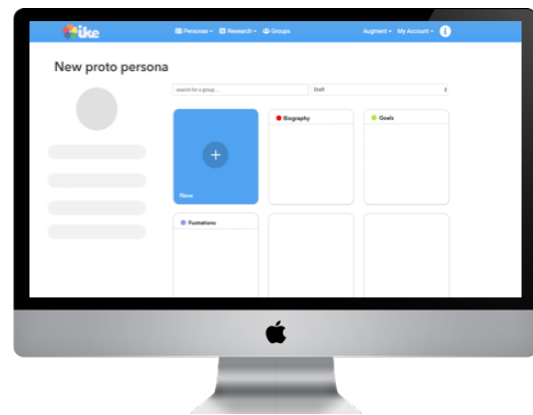


Figure 10: Mockup of IKE's Persona Editor prior to this IQP.

4.6 Continuity

Figure 10 displays the initial wireframe that was created for IKE's persona development. A design question was to find the best location for the "add" button, which would be used for creating a new persona element. At first, IKE had a one-column layout for persona elements, as seen in Figure 10. This made it easy to place the add button as the first card in the list of elements. But the design for the new Persona Editor (Figure 4) required a different approach for creating a new persona element.

One possible solution was to introduce a floating button for creating new elements. Floating buttons were introduced by the Google Material's Framework and tend to be used across a lot many web interfaces. This solution would result in an element button that would hover above the main user interface allowing the user to create a new element at any moment. While this approach provides access to the "add" button quickly it can be distracting to have a button hovering over the UI. Another approach for placing the "add" button to the new Persona Editor UI was to put it above the elements list. This approach reduced distraction and clutter while providing quick access to creating a new element. This approach kept the integrity of the masonry layout, without hindering a user's ability to easily create new persona elements.

5 Future Work

There are many ways to expand IKE persona development moving forward. One way to improve persona development in IKE is to develop a library of persona elements (from existing personas). In certain scenarios IKE users may want to share

persona elements that they defined with other IKE users (e.g., colleagues in other departments or design groups). A shared persona element library can accommodate such collaboration. Similarly, IKE users may wish to share their persona templates with other users in their organization. A shared persona template library can accommodate this need.

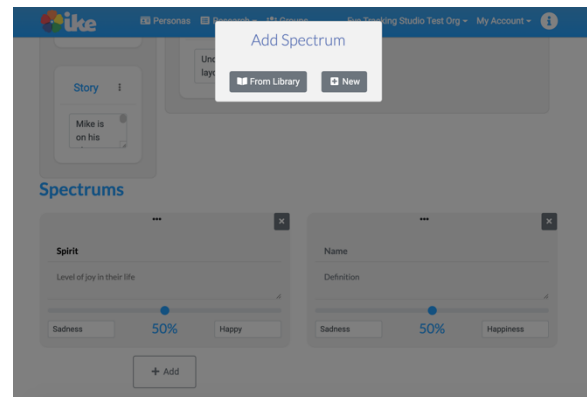


Figure 11: Example of how to create a spectrum from a library.

Libraries for persona elements and templates can also make persona development more efficient because they can allow IKE users to create a new persona by utilizing preexisting structures rather than starting from scratch.

IKE's backend schema is structured in a way to support the expansion of features as needed. For example, the platform is built to support images for personas, i.e., users can upload pictures for their personas, however that functionality has not been implemented on the client side yet. A future improvement would be to make it easier to add pictures to personas, i.e., by developing an avatar-based element type. Such an avatar-based element type could support images, which IKE currently does. It can also support importing images from an avatar library (which IKE currently does not

have). Forming identity for “fictional users”¹² can be crucial for communicating their needs and empathizing with them. One can argue that an image in some cases can help designers to more effectively empathize with personas and the needs they represent. One way to address this issue is by providing IKE with an image library or by developing an avatar system. Developing these solutions, however, is not trivial, there are many issues that must be addressed first. For example, one may argue that a random image generator system¹³ that can automatically assign a face to a specific persona might be a good solution for IKE. After all, some of IKE’s competitors like UserForge make use such systems. However, depending on how well such solutions are implemented, they can create ethical concerns (e.g., AI fairness). On the other hand, if such systems are designed in a way that they are free of biases they can become a major asset for persona development. For example, a well-designed (and culturally diverse) image library can significantly improve persona development at a global stage or in the “usage worlds” that have culturally diverse populations.

Bias can also be introduced in IKE through the development of proto personas, which are assumption based. To mitigate such a bias it is recommended to triangulate the data that is generated by various types of persona development, that is, by combining data from proto (assumption based), research (user interviews), and data personas (data artifact in the usage world) (Jain et al. 2019, Djamasbi and Strong 2019).

Machine learning can be used in future iteration of IKE to develop advance

search and retrieve features as well as to foster meta-analysis of developed personas. IoT devices in smart and connected usage worlds can enable future iteration of IKE to automatically update changes in needs and behavior of developed personas (Djamasbi and Strong 2019).

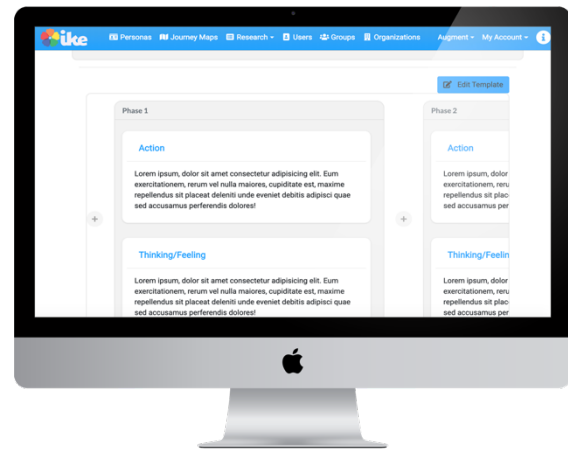


Figure 12: Functional Prototype of Journey Maps in IKE’s development environment.

Another way to improve IKE in future projects is to develop features for User Mapping (e.g., Experience Maps and/or Journey Maps). User maps refer to diagrams that depict the steps user(s) take to complete a goal using one or more products and/or services (Richardson 2010, p.1). User maps help to discover pain points in the design process of a product. They serve as a great tool to discover opportunities for innovation (Djamasbi and Strong 2019).

Currently, the User Mapping feature has been implemented at a functional prototype level in IKE. Future projects will

¹² The “fictional user” makes reference to the persona archetypes that were described earlier in this paper. Personas are meant to be representative of real-life users, but in an abstract world.

¹³ Random image generator selects a random image or avatar from a library of photos from a database of people.

complete the development of IKE's user maps.

6. Conclusion

Persona development has ever so slightly evolved over the years since it was introduced. Given the rise of technological disruption, and the continual demand for innovation (Djamasbi and Strong 2019) the need for creating, updating, and managing personas is greater than ever. To stay competitive companies must allocate resources to understand how best they can satisfy their users' needs. Platforms like IKE

can help companies to drive this effort effectively. By providing a platform for developing, updating, and managing personas, software solutions such as IKE will help to evolve and advance UX research (Djamasbi and Strong 2019).

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