

Designing Empathetic Service Experiences Using Storytelling Approach: A Case Study¹

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ABSTRACT

Storytelling is a well-known technique to emphasize emotions. This paper explores the integration of storytelling techniques into service design to cultivate empathetic service experiences. Emphasizing the significance of emotional connection in social service contexts, we designed services for Adolescents Living with HIV (ALHIV) in India. Due to a lack of awareness and social stigma, ALHIV are unable to make timely and responsible life decisions around intimacy and HIV status disclosure. We designed services that disseminate essential information and enable ALHIV to make informed life decisions. The solution is an interactive story media where users make decisions around in-design encounters that parallel with possible real-life encounters. As a result, they get to explore multiple possibilities in a safe space, leading to improved real-life decision-making. This paper demonstrates the replicable framework of orchestration of human and technology touchpoints through multiple dynamic and choice-based scenarios. The study examines the synergy between service design and narrative frameworks. Through a detailed case study, the research underscores the pivotal role of storytelling in fostering genuine user engagement by infusing empathy-driven narratives into service encounters. Overall, this research contributes a novel perspective on designing empathetic services, demonstrating the role of storytelling in crafting meaningful service experiences.

Keywords: HIV, Service Design, Social Impact, Storytelling

INTRODUCTION

Globally, an estimated 1.75 million adolescents are living with HIV as of 2020 (UNICEF, 2021). Most adolescents and youth with HIV live in developing countries and have acquired it because of mother-to-child transmission. The total number of People Living with HIV (PLHIV) in India was estimated at 2.32 million in 2020 (National AIDS Control Organization India [NACO], 2020). The state of Maharashtra in India, where the current design intervention is being tested, has the highest number of PLHIV at 0.39 million (approximately).

Since the increase in access to Antiretroviral Treatment (ART), survival rates of PLHIV, including children, have improved and many children are now in their adolescence and young

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adulthood (Mkumba et al., 2021). However, limited attention has been paid to the changing needs of these youth living with HIV while they transition to adulthood (Bhana, et al., 2020) (Baryamutuma & Baingana, 2011). A qualitative study from southern India among Adolescents Living with HIV (ALHIV) documented a range of concerns regarding romantic relationships, confusion about whether to marry a HIV-positive or HIV-negative partner, or safety concerns in childbearing (Vranda et al., 2018).

Disclosure of HIV status to an intimate partner is an important stressor for ALHIV (Toska et al., 2015). The fear of rejection, stigma, and public exposure after disclosure in these young adults influences a range of important decisions that can directly or indirectly affect their physical, mental, and social health. Therefore, providing ALHIV support and guidance for decision-making while disclosing their HIV status to their partners was recognized as a critical intervention.

Overall, there is limited evidence on the prevalence and consequences of disclosure of HIV status by ALHIV to their sexual partner and how to support them in this process. Studies from South Africa (Kidman & Violari, 2020) and Thailand (Boon-Yasidhi et al., 2021) and anecdotal evidence from India (Vranda et al., 2018) (Prayas Health Group Pune, 2010) suggest that ALHIV find it difficult to disclose their HIV status to their partner mainly due to the fear of rejection.

Based on the need for timely and responsible disclosure of HIV status and making informed decisions regarding different choices related to sexuality and disclosure, we have prototyped a service design intervention that incorporates interactive digital storytelling and design methods to make the solution more engaging to the end user. The solution focuses on promoting “learning through exploration”, where users can explore various scenarios, in a safe environment and make informed decisions when they encounter similar situations in real life. This is a “social” service, that can be provided by NGOs and government organizations. The role of the service design team in this study was to enable these bodies.

Through this journey, we reflect on how service design can provide a unique way to approach such sensitive issues and provide an innovative solution.

1. SERVICE DESIGN IN THE MODERN AGE

After its emergence in the 90s (Mager, 2009), the subject of service design has been gradually established as part of holistic and innovative design education. Progressively, it has displayed its value in numerous projects across industrial, private, and public sectors. With increasing demands for holistic and user-centric experiences, companies are beginning to understand the value of service design. Several companies including telecommunication providers, insurance companies, banks, hospitals, transportation, and hospitality industries have started dedicating their resources towards research in service experiences and service design. To name a few examples, Virgin Atlantic, McDonald’s, and Volkswagen are investing heavily in service design research to improvise their service experiences (Mager, 2009). Service design has helped add value to businesses and promote organizational change to improvise internal efficiencies and experiences (Joly et al., 2018).

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1.1. Service Design—Then and Now

In the recent past, service design was primarily about establishing itself as a method of designing and developing services and service businesses (Miettinen, 2013). As more and more service designers, researchers, and practitioners began to address wicked problems through the service design approach, it became evident that we need to step beyond traditional interactions and focus on seamlessly integrating cultural, social, and personal interactions across many stakeholders to provide a meaningful service experience (Simo et al., 2012). With the growing needs of the users, services must be dynamic in nature. Service design methods can play an important role in creating empathetic solutions for social issues. With it, one can think of creative ways of addressing large-scale socio-cultural issues. In the current context, service design can help us understand the complexities of cultural and social constructs that impact ALHIV. Designers can employ existing methods of service design to understand the user needs better. For example, in this study, we use methods of tacit knowledge extraction to find insights that the study participants did not share previously (Mahamuni, et al., 2018). We also used another service design tool called “empathy square” which enabled us to empathize with the needs and wants of all constituent elements of the service, that is, users, stakeholders, the environment, and the servicescape (Mahamuni, 2020). Empathy square (Figure 1) plays a crucial role in enabling designers to make sustainable services aimed towards creating a social impact.

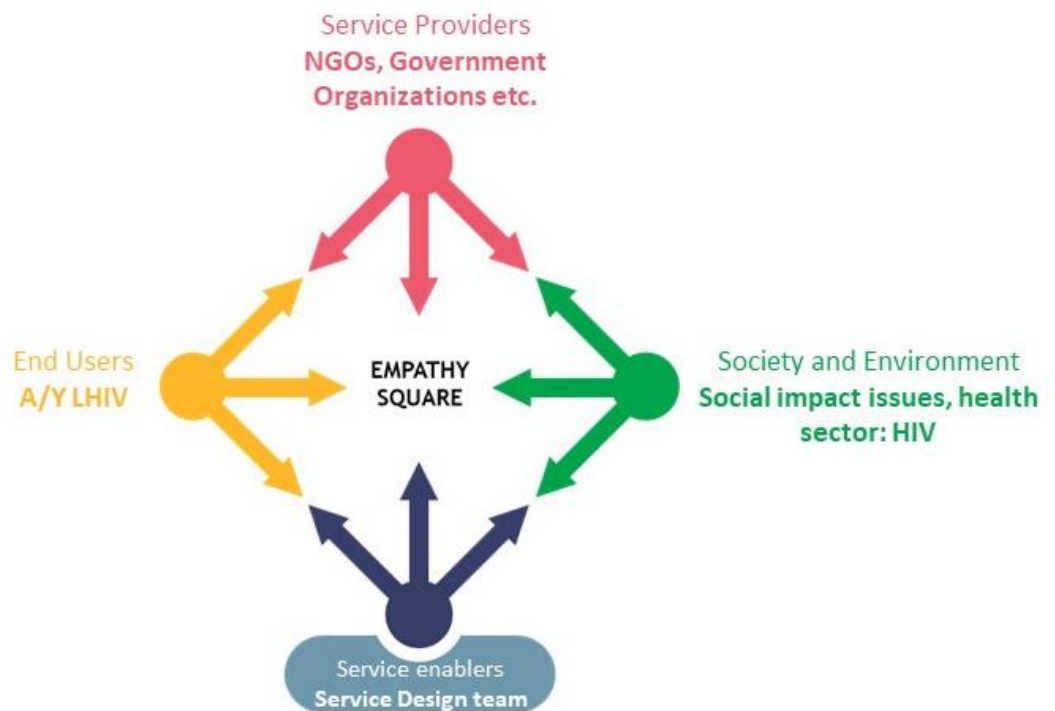


Figure 1: Empathy Square (Mahamuni, 2020 (p. 120))

With the help of service design, organizations can deliver enriched service experiences that are holistic towards all involved stakeholders of a service, by understanding a problem from multiple perspectives of involved actors and using design thinking to co-create innovative solutions.

2. PROBLEM AREAS ADDRESSED IN THE STUDY

ALHIV in India are significantly affected by the social stigma revolving around HIV and its impact on social interactions. The taboo around the subject discourages them to have an open discussion on the topic, leading to a lack of awareness of important steps necessary for

recovery and safety. Two major issues that our study revealed were about disclosure and sexuality. Primarily among adolescents, uncertainty, stigma, and lack of awareness about these issues generate significant stress in the process of decision-making, in addition to a higher possibility of unfavorable outcomes. Such outcomes may have a significant effect on their physical and mental health. Hence, it is important to assist them in making more informed choices.

Through service design, we anticipated a solution that would help ALHIV be more prepared for possible scenarios that they might encounter in real life. We started by understanding user needs, followed by creative ideation, conducting workshops for idea generation and refinement, and finally rapid prototyping a solution. The prototype was an interactive story-based UI. Through this story, the users get exposed to a range of available choices at each encounter, and get to experience the consequences of the decisions, in a safe space. Through this means, the users get an exploratory outlook on the problem. The choices are not enforced on the user, rather they explore what either of the choices leads to. Another benefit of this approach is that it makes the solution useful for two types of users: 1) users about to indulge in intimate relationships for the first time and 2) users who have already indulged in it and have experienced some level of consequences.

The study focuses on young adults (age 21-26). This age group might experience sexual encounters soon if they are already not sexually active, and they might have several questions regarding it. It is necessary to clarify their questions to enable them to make more informed life decisions. In this study, we took a story-based approach to design various sub-services that would address the prominent problem creatively.

While understanding the needs of the user group, during research, we noted down their entire life journey (Figure 2). This helped us create a more holistic understanding of user needs. This approach played a crucial role in coming up with interventions that are robust and do not become irrelevant beyond the age of adolescence. This analysis was a result of several one-on-one interviews with users. The interview insights were then translated into the form of a persona and subsequently, a user journey for that persona. The journey was extrapolated to the entire life journey and major problem areas were then identified. The graph in Figure 2 depicts how the generalized intensity of these problem areas varies across the lifespan of an ALHIV.

Intervention areas w.r.t.Age group

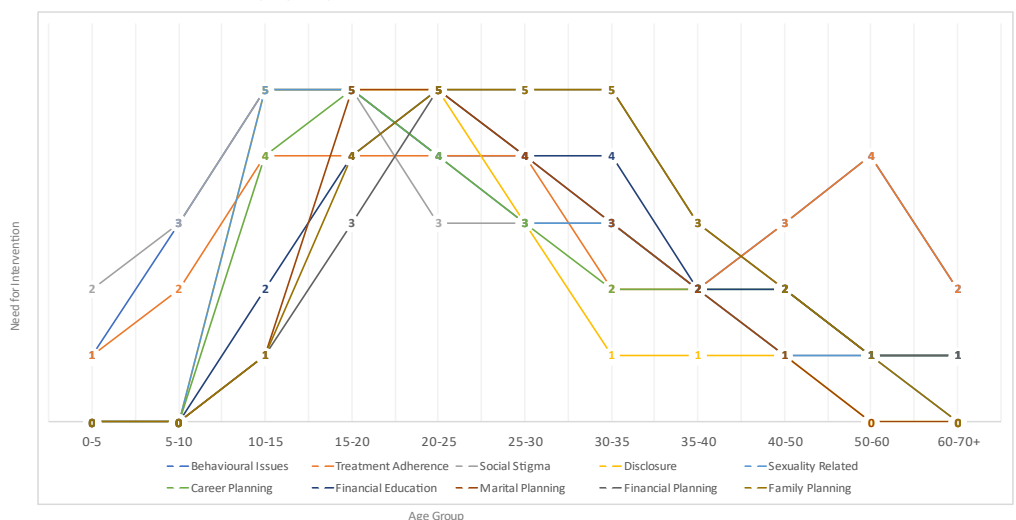


Figure 2: Problem areas identified during user research and their progression over the lifespan

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We analyzed 10 major aspects (as shown in the graph) which are as follows:

1. Behavioral issues
2. Treatment Adherence
3. Social Stigma
4. Disclosure
5. Sexuality related
6. Career planning
7. Financial Education
8. Marital Planning
9. Financial Planning
10. Family Planning

The above graph shows how each of these aspects varies across the lives of an HIV-positive individual. We can see that sexuality and disclosure prevail to the highest intensity in the journey. These two factors further lead to issues in other areas, for example, marital affairs.

3. DESIGN INTERVENTION

3.1. A story-based approach to orchestrate sub-services to create an empathetic service response

The novelty of this project was to explore storytelling and use it as the central point to create a solution that resonated with the end user. The life stories of the users were understood. This was done by interviewing 21 adolescents who participated in workshops conducted by participating NGOs (co-authors of this study). The stories of interviewees showed how social factors played a major role in creating a taboo around the subject of HIV which led to people not being aware of major issues. Especially at the age when children transition to adulthood and have many questions about life in general, they are not provided required information about how to deal with their condition. These problems span across social circles and families, increasing the problem exponentially.

Understanding the problems was followed by ideating ways in which the problem can be solved. We created an interactive story-based mobile service (mobile service was used because it is more accessible to the users, given their financial and social background) that allowed users to go through experiences that they might face in real life. By allowing them to explore it in this safe environment, they were prepared to make an appropriate decision when they face the scenario in real life.

To develop the story, we also studied various aspects of storytelling and its progression across time in drama structures by Aristotle and Freytag to create an engaging narrative (Freytag, 1863/1900; Hoffe, 2009). To summarize, drama structures by both Aristotle and Freytag include elements of exposition, rising action, falling action and finally, resolution. In both structures, the initial half of the storyline sees a gradual increase in action (rising action) until

it reaches a climax. Following the climax, the storyline gradually progresses to a slow retardation of action, until it reaches the conclusion (ending part).

We created a story that utilized similar aspects to make it more engaging. We will learn more about it in the following section. In the prototype, to make the story more relatable, the users can choose the gender and HIV status of the protagonists. This helps customize the story as per the relevant context that users face in their real life, making the story more helpful. The story focuses on raising awareness in an engaging manner. It provides help and support in terms of:

1. Education
2. Sexual choices
3. Disclosure of their HIV status
4. Marriage
5. Family planning
6. Employment: HIV-safe workplaces, health insurance, employment contract, work culture

With the help of such holistic problem-solving, we were able to solve the problems more realistically. This, combined with the ability to customize the story as per user choice made it more appropriate for individual needs. This helped us come up with a story that uniquely resonated with each user's life experiences.

In the following section, we will look at the intervention in further detail.

3.2. Overview of the Concept

The service was titled 'My Choices'. We decided to keep this title because it showed the exploratory nature of the service and also had an empowering connotation to it, thinking from the perspective of an ALHIV. Currently, it has been prototyped in the regional language of Marathi spoken in the state of Maharashtra, India. The Marathi implementation of the design is called 'Majha Paryay' which translates to 'My Choices'. The language was chosen as per the linguistic comfort of the target audience. For the convenience of the readers of this paper, we have translated parts of the User Interface into English.

The narration of the story is about a romantic relationship between an HIV-positive and a non-HIV-positive character. The design allows users to choose between experiencing the story from an HIV-affected female or from a male's perspective. This choice has been provided as the narrative requires the users to make decisions around physical intimacy and sexual choices. The story takes a user through the journey of the chosen protagonist and requires the user to make choices on behalf of the character. At different intervals of the story, the user is posed with a set of options to choose from that dictates the progression of the story. At the end of a story trail, a user can start over again and choose a different option to experience the alternate narrative.

3.3. Objective

The design intends to provide the users with an opportunity to explore situations in a romantic relationship that an ALHIV might encounter. The design can enable users to realize the benefits of early disclosure and responsible physical intimacy as compared to the complications that might result from hiding essential facts about their HIV status. The design does not intend to draw a strict line between right and wrong choices. Real-life situations are complex and such division might not give practical insights to users. The choices provided in the design hence allow the users to explore all options irrespective of their correctness and analyze their impact. This holistic perspective gives users an outlook that is rather risky to be explored in real-life situations.

3.4. Plot

We have implemented the female perspective of the narrative as a prototype version. The names used in the story are fictitious and have been used for representational purposes only, without any intended correlation to a person. The design narrative focuses on the journey of a protagonist named Vijaya (female) and her partner Sachin (male). Vijaya has a lot of tough decisions to make (when their relationship gets intimate) regarding her HIV status; the user needs to help Vijaya choose whether she should opt for responsible disclosure, safe sexual contact, protect herself from societal judgments, or give in to the fear of rejection.

3.5. Methodology

The design narrative was written by researchers and the HIV program manager at a prominent Non-government Organization in Maharashtra. The design and research implementation collaboration was carried out with researchers and designers from a major Information Technology company in India. The initial story exchanges between these two stakeholders were made using Microsoft Word and Microsoft Excel. This was later shifted to the online visual collaboration tool, Mural as the story branching grew more intricate.

From the very beginning of the project, we adopted a collaborative approach of continuous feedback and created wireframes using Adobe XD for feedback and discussion. This quick step of prototyping a clickable version of the design proved very useful for refining the narrative and navigating between the options, some of them were also realized as redundant early on and replaced promptly.

We analyzed storytelling aspects to create a resonating scenario for the end users. We first tried to understand the intention of each interaction of the service and how it should make the user feel. Based on this, we noted certain narratological aspects that the story must address to be engaging and collaborated with the participating NGO to develop the final storyline. The collaborative nature of the project helped us use the expertise of the NGO's understanding of the issue.

As the wireframes were being refined, we parallelly worked on finalizing the story flow. We used Mural's online visual collaboration platform for this purpose. Mural provides a bigger canvas that was very useful in creating branching and long story trails. The wireframes were translated into a mid-fidelity prototype in view of having a Minimum Viable Product (MVP) that could be used for testing. An impersonal illustration style was explored, and context-suitable illustrations were created using Adobe Photoshop. The user interface of the prototype

was also further refined to give a clean look using Adobe XD. Figure 3 shows a snippet of the refined prototype of the design. The design prototype was tested with 35 HIV-affected adults.

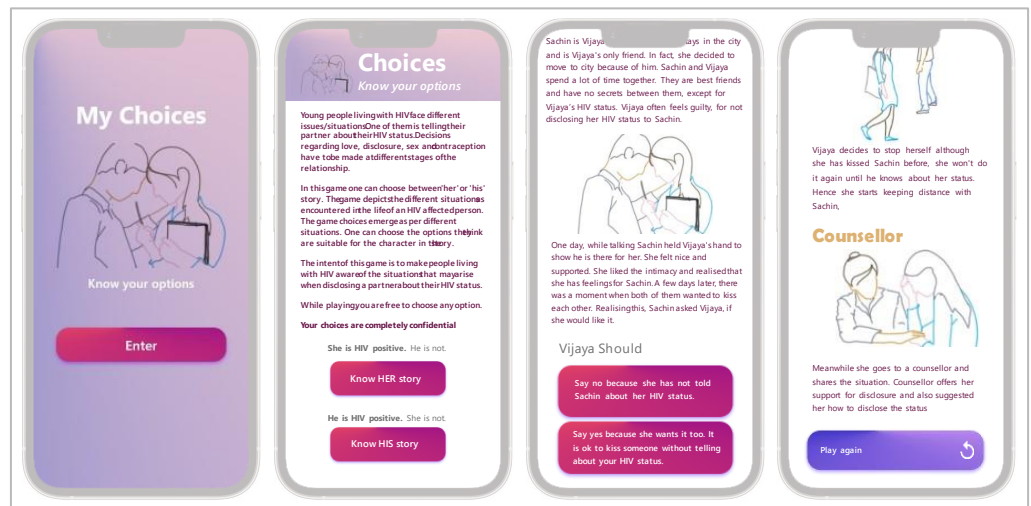


Figure 3: Refined Design Prototype used for Testing

4. VALIDATION

The solution was tested with 35 A/Y LHIV (Adolescents/ Youth Living with HIV). The group was made up of both males and females. The participants were chosen as per availability. All participants are HIV positive. These participants were previously part of in-person workshops conducted by the participating NGO and hence had adequate exposure and education about HIV.

We shared the URL to the platform application with the study participants, which they tried out at their convenience on their personal devices. Later, we sent out a questionnaire individually, via online form. Each participant individually went through the design before filling out the form. The following day, they were invited for a group discussion where the participants were prompted to share their thoughts with others to have a discourse. The evaluation aimed at assessing the following points:

1. Overall experience of the design
2. Whether the storyline resonated with users' real lives
3. Whether users learned anything new while using the design
4. Whether the Interface was easy to navigate and visually ergonomic
5. Ease of understanding the language and images in the story and the options
6. Overall design experience

All the participants felt that the structure of the design, and the way it was presented, including the language and associated images, was easy to understand. All of them could navigate easily and felt connected with all the available choices to understand the different story trails in the design. They mentioned that it generates curiosity regarding 'what happens next?' in the story and the available options.

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4.1. Emotional Connect and Resonance

91% of the participants felt an emotional connection to the story. One girl reported that she was unable to comprehend the protagonist's and her situation of having HIV since birth. This directs us to the need for creating a more open narrative for youth who might have acquired HIV at later stages and not necessarily at birth. Several components of the story such as the intimacy between the partners, the emotional state of the protagonist, or the decision complexity and uncertainty invoked visible emotional reactions among the participants.

55% of the participants shared that they felt a high level of emotional connectedness as if they were reading their own story. This segment of participants took a significant amount of time at each decision point of the design, they explained that at some points it became stressful and emotionally overwhelming for them due to the high relatability of the story with their own lives. This points towards the need of having an emotion regulation mechanism as such issues might lead to users feeling discouraged to explore all the choices.

4.2. New Information and learnings from the design

Participants felt the design could have talked more about "methods of disclosure". Participants expressed the need for details on practical aspects of sexual relationships. For example, "how a pregnancy test is conducted?", "how to use various types of contraceptives?". They seemed to be aware of the importance of disclosure and pointed out how it is subjective to individual situations in one's lives. During the discussion session, participants showed conflicting views over varying decision points which helped the counselors to understand them better and have a fruitful discussion around the topic. This enthusiasm during the discussion became possible because of the high level of engagement that the story provided. It was also pointed out that the design currently focuses mostly on partner communication. However, there is a need to address aspects that have a relatively larger probability of occurrence in the Indian context such as arranged marriage or marital life.

4.3. Navigability and visual ergonomics of the interface

None of the participants faced any issues regarding the navigation of the stories. The participants rather found it extremely interesting to navigate between various story trails and experience the narration from different angles.

4.4. Ease of Language and Visuals

The visuals in the story were well accepted by the users which kept them engaged and immersed in the design. The language used in the design was Marathi. Hence, the users were able to comprehend the text with relevant emotions as Marathi was their mother tongue and no language translation was required.

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5. A STORY-BASED APPROACH TO ADDRESS SERVICE INTERVENTIONS: DISCUSSION

The story addresses several scenarios that an HIV-affected user might encounter in their lives such as moving to a different city for job or studies, loneliness and need for support, romantic involvement, fear of rejection, fear of intimacy, and disclosure of their HIV status. The

narrative makes sure that important decision points in the life of an ALHIV are reflected upon. Cultural influences form the basis of problems arising around HIV and hence it is important to address these aspects. Lack of understanding of culture has been a major failure point in past efforts of spreading awareness about HIV (Duveskog & Sutinen, 2013). To address these aspects we applied tools like empathy square to take care of multi-stakeholder complex problems that social problems pose (Mahamuni et al., 2019). We also found that there is a potential of improving the story narrative by using the Drama structures of Aristotle and Freytag (Freytag, 1863/1900; Hoffe, 2009). We have incorporated some of these techniques revolving around Time, Environment, Perspective, and character archetypes that make storytelling in interactive media more engaging (Kampa et al., 2016). We mapped various service design elements used in the story to different configurations and scenarios in the story (Figure 4). As shown in Figure 4, we can see how these elements can be mapped to service design elements.

1. Setting: This corresponds to the problem space that we are solving, and the narrative derived from it, based on user research.
2. Characters: These are customizable personas that users can configure. In the current story, this can be either Sachin or Vijaya, and service stakeholders.
3. Plot: This can be mapped to the customer journey map, which was derived after extensive user research (Figure 2).
4. Conflict: The conflicts represent concerns and constraints that users and stakeholders of the service face.
5. Theme: This is representative of the entire design direction of the narrative.
6. Narrative arc: This represents interventions, prototypes, and prototype narration scripts.

This mapping gave us a new way of brainstorming around the storyline. We were able to imagine what to change in the storyline, to incorporate one or the other aspect of service design. For example, to create a holistic solution, from a service design perspective, it is needed to address issues of personas (an HIV positive and negative individual) while keeping in mind problems discovered in user research which set the context. This led us to incorporate the characters of Vijaya and Sachin, and their environment in the story is coming from the user research. This was one of the many instances where we used this mapping to generate the storyline. This model takes a different approach from existing design processes and brings in new perspectives to the solution. In that sense, this model is novel.

With the help of this intervention, we were able to create a more appropriate solution for the users that was more engaging and resonated with real-life scenarios that they face. At the same time, the solution allowed users to explore their options without pushing for a right or wrong way to mitigate HIV-related issues. Taking a storytelling approach helped us create a much more engaging solution. At the same time, it helped us understand the needs and wants of end-user better. Such a holistic approach helped users understand all the scenarios they might have to face in their lives, related to disclosure and sexual health. Using the power of storytelling, in conjunction with service design thinking, we came up with a novel way of tackling the issue.

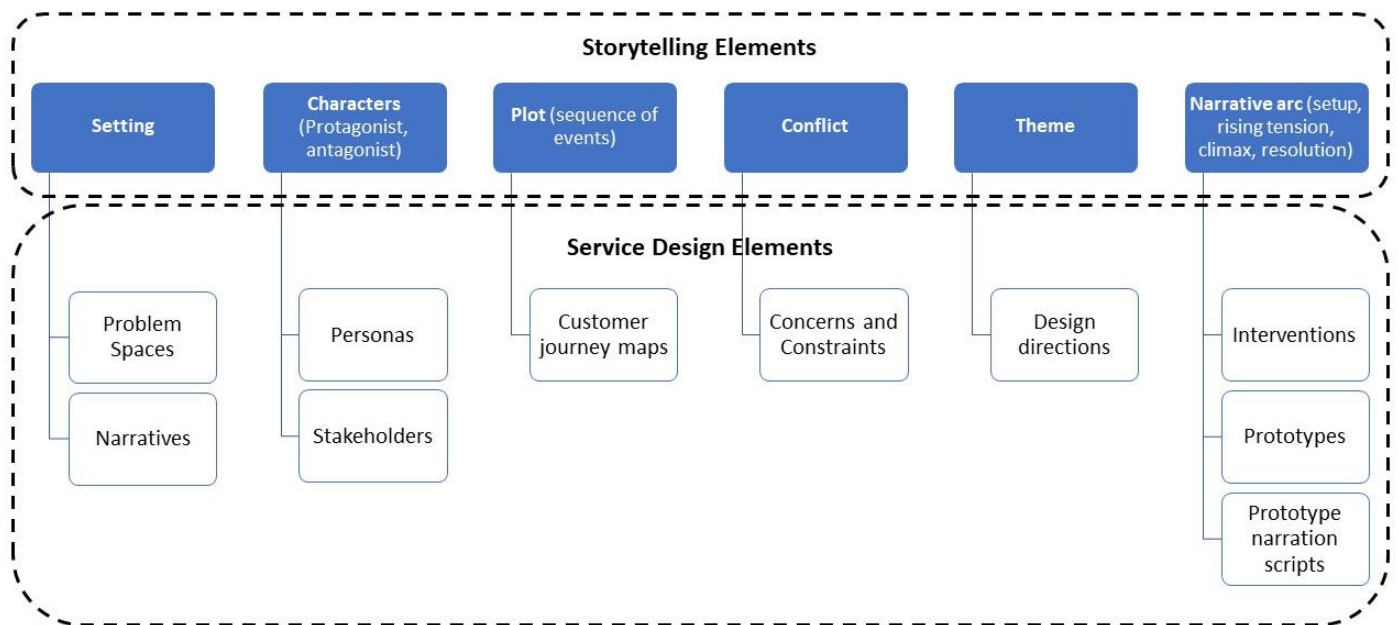


Figure 4: Mapping of storytelling elements across service design elements

Through this case study, we realize how storytelling in combination with service design can be used to create more empathetic experiences for other problems as well, in a systemic way.

Storytelling, in general, has been an important aspect of design. Its value is recognized worldwide. Although, the use of storytelling in such a manner is new and gives a glimpse of evolving service design methods. Such explorations are valuable for discovering new methods for designing services. To analyze the current model further, we can see how key aspects of a service and storyline have been dissected and compared with each other. Such dissection and comparison are objective in nature, although, while comparing it gives better clarity about both (story and service), to the designer. And this clarity gives the designer, a better control over both. It now depends on the designer which aspects of the story they want to change (which will have an expected impact on service), or which aspects of the service they want to change (which will have an expected impact on the story). This was one interesting experience we realized while utilizing the model (Figure 4). Incorporating an empathetic approach (Figure 1) with such a model helped us come up with a more meaningful service.

Having a model like this (Figure 4) allows us to replicate a similar approach for other business and social problems. This case study was just one instance where through the help of this model one storyline was created, specific to the problem space of HIV. Although, the same model can also be used to generate other storylines, for other problem spaces. The primary research contribution of this study was the creation of this approach that can help create more empathetic experiences for other problems. This case study was an instantiation of this approach.

Another possible application of this model can be to propose stories with integrated services. Meaning, stories can be part of solutions' outcomes (of the design process). And along the journey of the story, there can be micro-services that are acting within that part (scope) of the journey. This step of combining the product, stories, and multiple services, can help designers think of a design outcome from the perspective of systems design.

Further, the stories present in the solution can change, based on the context; Having an impact on the solution itself. That is, the same solution changes its form based on the context and stories create that "context-specific" solution more engaging. Altogether, the end outcome of the design process can be thought of as a compilation of multiple stories, products that change

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based on the contexts that are within the scope of the project, and multiple micro-services that act at various points of the user journey.

Since this is a new model, currently, we intend to come up with other applications that it can have, from the perspective of service design methods in the future.

6. CONCLUSION AND FUTURE STEPS

This case study requires validation across a larger user group. There is also a need to create other story branches that do not necessarily focus on sexually contracted HIV or romantic relationships. This is to cover more diverse aspects that might resonate with a larger audience. There is also a need to make storylines from the perspective of all present genders and sexual orientations, to create a more inclusive solution. Overall, the study helped us understand how the service design approach, in this case, the use of storytelling, can help address a large-scale social issue.

Future step is to apply empathetic storytelling approach for various social and business problems, to validate its effectiveness. We also need explore the possibility of embedding storytelling approach during service design life-cycle.

The study, at its current stage, has shown promising results. It forms a meaningful way of understanding problems in modern-era service design that can also help make large-scale technologies more empathetic.

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