Developing future technological solutions for health and wellbeing Intensive programme 15.-26.3.2021

Service design for the Health and Wellbeing sector and its target groups

16.3.2021

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Mayo Clinic and the American Medical Association: "Electronic health record systems, is a reason for epidemic of burnout on nearly half of physicians across the country."

"More data should be available to patients, giving them greater access to cloud-based platforms by means of intuitive interfaces that allow for active patient input into their own care. Clinicians should use healthcare analytics and wearable technology to increase the automation of everyday patient care–and also putting more of it in the hands of patients themselves."

- Design has become the focus of patient experience and patient engagement. Changing the lens through which we see patients and caregivers is the starting point for human centered design, a way of thinking that address both the emotional and functional needs of all stakeholders in health care.

Padmanabhan 2019; Accenture 2015

Learning challenge

you should be able to:

- Explain what is service design
- explain service design process,
- explain what is service design in the area of digital health,
- apply service design to your project challenge.

Content

Concept of service design
Service design for digital health
Service design process
Service design methods

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SERVICE DESIGN

1. Aims to create services that are user-friendly, useful, useable, desirable, efficient, and effective.

2. A human-centered approach that focuses on customer experience and the quality of service encounter as the key value for success.

3. A holistic approach that considers in an integrated way strategic, system, process, and touch-point design decisions (i.e., decisions about the ways in which users interact with services).

4. A systematic and iterative process that integrates user-oriented, team-based interdisciplinary approaches and co-design methods in ever-learning cycles.

Shaw et al. 2018

SERVICE DESIGN

- The practice of ‘design’ has many interpretations.
  - design is understood as aesthetic improvement
  - the full definition as it has been applied in healthcare is more expansive and includes everything from increasing the effectiveness of disease education tools and informatics systems to rethinking workflow and communication processes.
- Design can simplify complex problems, reduce friction in a system, and create truly engaging solutions.
- Design and designers bring well-established processes for solving challenging, systemic problems. Well-designed systems make products and services easier to use.

Naar et al. 2018.

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Service design in health care

"Service design re-imagines patients' relationships with both digital and physical healthcare services. It uses an emotional, patient-centric approach combined with robust technology, rigorous methodology and the power of design to create intuitive, seamless patient healthcare experiences."

"Healthcare service design is an approach that seeks to find out what patients need and how to organise service provision around those needs."

Accenture 2015

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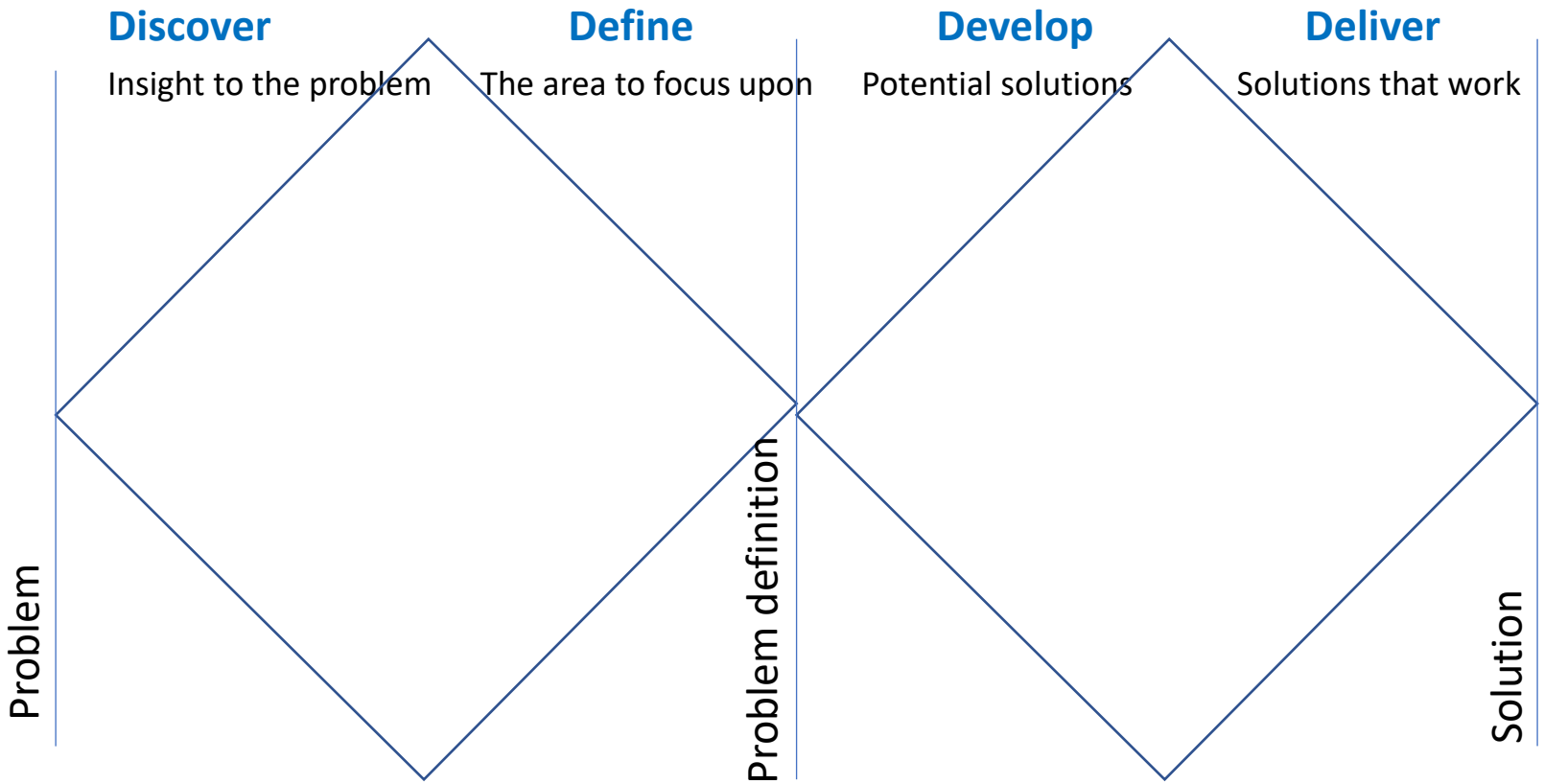
Double diamond model. Design council



Naar et al. 2018.

1. Discover

- A design project starts with an articulated problem or body of evidence.
- The goal is to collect as much diverse information as possible about the problem area, largely by empathizing with people.
- Primary and secondary research is used to immerse a designer/ design team as deeply as possible into the context of the problem.
- Design research methods used include stakeholder mapping, process mapping, qualitative interviews, direct observation and ethnography.
  - Seeing the world through the eyes of the people involved: a patient, clinician, caregiver or other system stakeholder
  - Seeks to uncover the unarticulated needs that serve as inspiration for new ideas.
  - To empathize deeply with people, designers look for stories and ask open-ended questions, later synthesizing observations to identify latent needs, motivations and behaviors.
  - Designers strive to connect the dots that people may not even know matter to them.

Naar et al. 2018.

2. Define

- Making sense of all of the possibilities identified in the Discover phase.
- Sometimes, the identified problem needs to be redefined, expanded or contracted based on observations or insights.
- The goal is to create a clear understanding of the fundamental design challenges from the agreed problem.

- The service design process emphasizes **visualizations as a tool** to support thinking and comprehending how different parts of the service link together.

- **Stakeholder map** - shows visually who is involved in a particular service and how they are connected to each other
- **Consumer journey**
  - visualizes the path of how the user experiences the service, contains user's interactions and feelings
  - identify problems and understand why actions happened as they did.

Colley&Marttila 2017.

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3. Develop

- The aim is to generate multiple solutions that can quickly be prototyped, tested and iterate.
- Focus is on making ideas tangible for additional learning.
- Prototyping enables teams to work quickly and adjust before arriving at a final solution.
- Prototypes can take any form
  - a hand-drawn sketch, a cardboard structure, a text describing an idea.
- Series of prototypes can be built over a few days or even hours. It is an ongoing learning process (rather than solely goal-oriented), and is the start of an agile, flexible final solution.
- Prototypes are shared with users for feedback and constant iteration.

4. Deliver

- A professional design team is needed to work on the delivery of a final solution.
- Focuses on the details (visual/graphic design, product design, information architecture, etc.) to set a project up for success.
- Comprises intensive rounds of user testing and iteration. This process ensures that value is proven and prevents wasting resources.
- The goal is to create the final solution that can be piloted, run through an evaluation trial or launched.

- **Service blueprint**
  - specifies the service and gives more detailed information of an individual part of the service.
  - a visualized map showing the various elements that are contained in different parts of the service.

Colley A., Marttila H. 2017. Introduction to Service Design for Digital Health. University of Lapland, Rovaniemi, Finland. Conference Paper. DOI: 10.1007/978-3-319-68059-0_38

SERVICE INNOVATION CLASSIFICATION

- **Radical innovation**: totally new service including new benefits to customers, new systems and processes are used in providing the service, and new competencies are needed.
- **Improvement innovation:** service that have better value provided through improvements in providing or competencies.
- **Incremental innovation:** category that is not a residual when the change does not represent radical innovation, but exists when one or more elements are added, eliminated or substituted to service.
- **Recombination innovation:** new services developed either by combining existing services or splitting up an existing service. Incremental innovation can also be seen as a particular case of this service innovation type.
- **Formalization innovation:** the type of services that have one or more characteristics of service that is formatted or standardized, and this can clarify the service offering and the benefits it provides.
- **Ad hoc innovation:** represents those services having elements and expertise that develop in connection with tailored solutions and can be transferred to new situations.

Wu 2014.

SERVICE DESIGN EXAMPLE

JUNHAN WU

DESIGNING A NEW SERVICE CONCEPT FOR CULTURAL INSTITUTIONS VISITORS

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DESIGNING A NEW SERVICE CONCEPT FOR CULTURAL INSTITUTIONS VISITORS

- The overall objective of the thesis project was to develop **a new mobile service concept for cultural institutions**.

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Discover

- The goal was to broaden project team's perspectives to allow for a wide range of ideas and unrevealed opportunities.
  - Contextual Interviews are implemented as an informative user involvement technique to understand the current situation of museum visiting from a service oriented perspective.
  - Touch-points and customer experience mapping is utilized to reflect the research result of contextual interview → A supportive technique to transfer insights into design solutions.
  - Workshop was organized to explore new possibilities of mobile service for different types of visitors → enabling users to contribute ideas that refer to what to design and possible solutions.

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The visitors' identity-related needs and desires

Five identifications of different motivations of visitors: explorers, facilitators, professionals and hobbyists, experience seekers, and rechargers.

Each team chose one of identities in question as its target user group to create a new mobile service for this specific group.

The definitions of the three chosen identities are described as follow:

- **Explorers:** Visitors are curiosity-driven with a generic interest in the content of the museum. They expect to find something that will grab their attention and fuel their learning.
- **Professionals and Hobbyists:** Visitors feel a close tie between the museum's content and their professional or hobbyist enthusiasm. Their visits are typically motivated by a desire to satisfy a specific content-related objective.
- **Experience Seekers:** Visitors are motivated to visit because they perceive the museum as an important destination. Their satisfaction primarily derives from the mere fact of having "been there and done that."

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For explorers:

- Provide a unique museum experience and will fulfill him or her needs to feel special and encourage him or her to return for more. For example, the manner of organizing delivered information is from a visitor's perspective, rather than from an institution's perspective to publish some information.
- Integrate an information distribution platform for cultural events that meets the need of searching interesting events.

For professionals and hobbyists:

- Treat professional and hobbyists in a different manner, providing special offer. For example, offering these professional people a special identity that can be recognized by other visitors.
- Consider these people as content contributors
- Deliver the information of upcoming learning opportunities according to a specific interest.

For experience Seekers:

- Provide an opportunity to "show off" been there and done that. For example, connecting other social network sites, such as sharing content to Facebook and Twitter.
- Provide a route planning function for the tourists.

Define

- The project team had a better understanding of the objectives of the project.
- Findings from the discover stage are analyzed, defined and refined as problems, and ideas for solutions are pitched and prototyped.
- The research findings were transferred into design solutions and a basic service concept.

Implementation of personas and storyboards

- Four different user scenarios were constructed to map the visiting stages: *Planning, Pre-visiting, Visiting, and Post-visiting*.
- The user scenarios were visualized in the form of storyboards with textual stories located under each stage.
- Through this method of user scenarios, the design team was able to make assumptions about target users and decision making.
- For example, the questions such as “why are we building this feature” “why do we chose this form of interaction design” could be evaluated in a more explicit manners.

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“Events” page provides cultural events of the whole Helsinki area. The users can find events by events list that shows events’ titles, thumbnails, number of people anticipated and who are interested in, event date, number of days left, event address, price, and keywords.

”Destinations” page

Based on the user scenarios, the functional features and corresponding interface were developed:
The Home-recommendation page,
events page, and
destination page
refer to the planning stage of the whole customer journey.

“Home-recommendation” page provides the recommended cultural related information according to the users using history. Users can view recommended events, destinations and cultural related news.

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Develop

- The service concept was needed to be evaluated in order to justify how it meets the original goals, which was considered by project team to determine whether continue or terminate this concept.
- The feedback was needed to support next stage development. *Anticipated experience evaluation (AXE)* was the main user involvement technique implemented:
  - one museum staff,
  - one tourist guide,
  - one art teacher,
  - two common visitors,

→ were interviewed and the subsequent data were analyzed in this evaluation.

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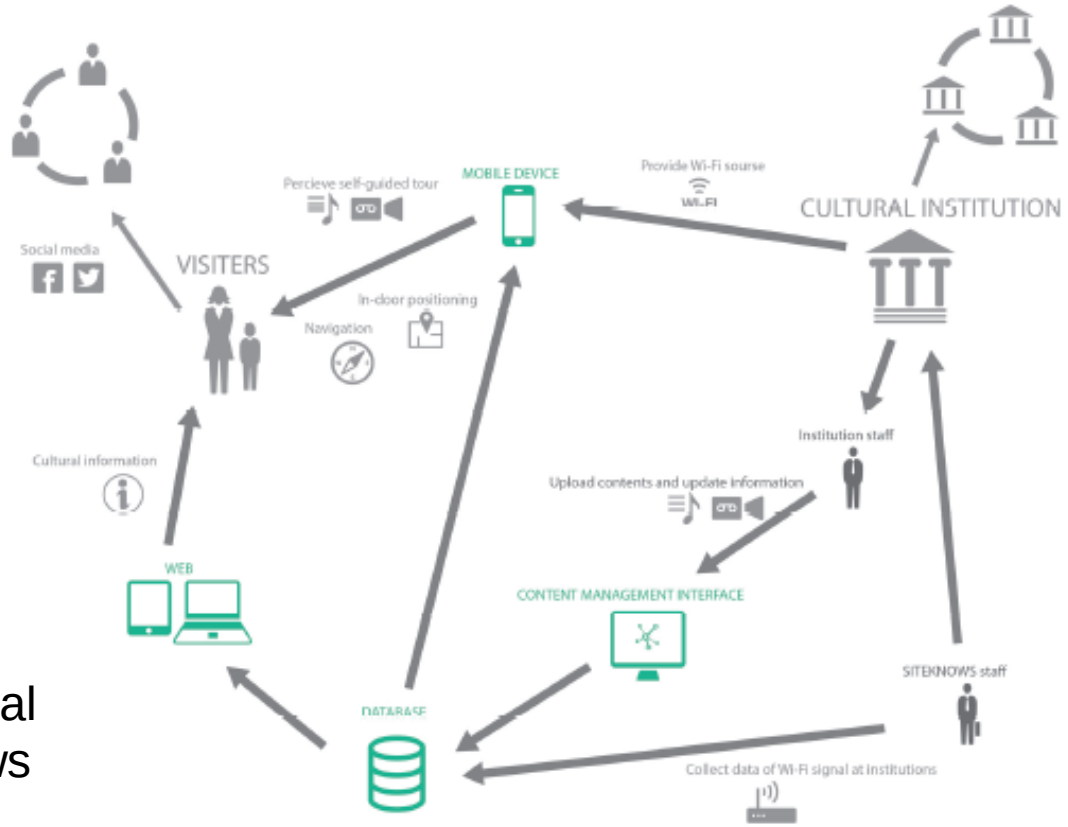
Deliver

- Final testing, approval and launch, evaluation and feedback loops.
- → The Siteknows mobile service was to be experimented in numbers of pilot institutions to verify its sustainability.

Service System Map

In order to support the representation of service solutions through the description of how the system works, a service system map tool was developed.

The tool is based on the visualization of the relationships of all stakeholders in this service. Different stakeholders and technical nodes, as well as their mutual links are represented by the flows of information and actions through the system.



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Siteknows platform

- Platform uses different technical channels to enable an integrated information service for cultural institution visitors. System involves different cultural institutions to participate in this service to satisfy their visitors.
- The technical nodes of platform consists of data base, web-based content management interface, and mobile device applications.
- The cultural institution staff uploads the information content through the content management interface. The content management interface enables museums' staffs to create and manage the content based on their working process.

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