scenarios

Stories for Design
Use and Reuse

Scenario?

- The set of steps/tasks that somebody goes through in their environment
- Series of steps doesn't have to be linear or a particular shape to show steps

Steps for Bridging Research Design Gap

- Develop stories-**scenarios**
  - To imagine ideal user
- Define requirements
  - Using the scenarios
- Define interaction framework
  - Using requirements define the interaction framework for the product
- Design detail
  - Filling the framework with the increasing design detail
- The glue that holds the processes together is ***narrative***: using personas to create stories that point to design

works part time
takes the bus
shares an apartment
full-time student
20 yrs old

my persona, Madge

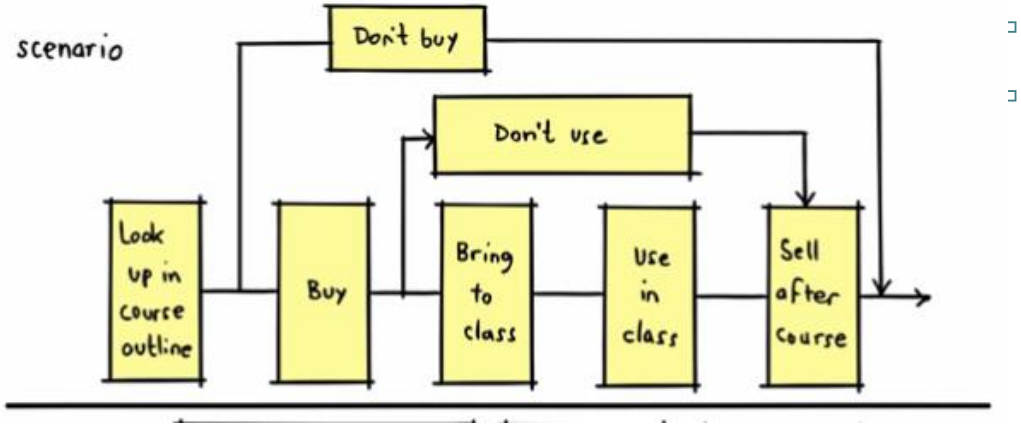
likes chocolate
doesn't like math
loves painting
hikes often
loves purple

my concept:

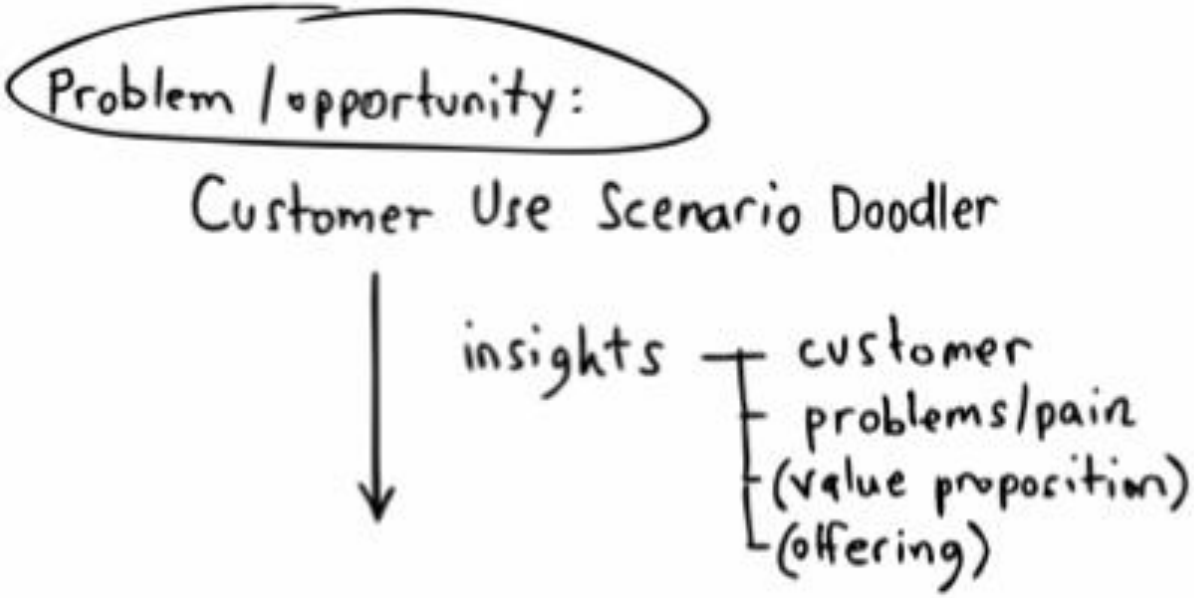
a better approach to textbooks?

example

- Persona
  - Madge, works part time, takes the bus, shares an apartment, full time students, 20 yr old
  - Likes chocolate, doesn't like maths, hikes often, loves purple



- Scenario
  - Looks up course outline
  - Buy from book store (online, from past students, don't buy at all)
  - Bring to class (not usually, sometimes not on trips, or friends' place)
  - Use in class
  - Sell after course (almost always, but would like to keep – if not whole but parts of it)



my concept:

a better approach to textbooks?

Creating Personas

Scenarios: Narrative as a Design Tool

- Narrative, or storytelling, is one of the oldest human activities.
- Much has been written about the power of narrative to *communicate* ideas.
- Narrative is also one of our most powerful creative methods.
- From a very young age, we are accustomed to using stories to think about possibilities, and this is an incredibly effective way to *imagine* a new and better future for our users.
- Interaction design narratives are quite similar to comic-book like sequences called storyboards-used in motion pictures

Scenarios?

- Used to describe a method of *design problem solving by concretization*: making use of a specific story to both construct and illustrate design solutions.
- John Carroll, in his book, *Making Use*:
  - *Scenarios are paradoxically concrete but rough, tangible but flexible . . . They implicitly encourage "what-if?" thinking among all parties. They permit the articulation of design possibilities without undermining innovation . . . Scenarios compel attention to the use that will be made of the design product. They can describe situations at many levels of detail, for many different purposes, helping to coordinate various aspects of the design project.*
- His scenario-based design focuses on how users accomplish tasks, missing is use of personas.
  - What should this product do? and How should this product look and behave? – model goals and not tasks

Scenarios versus Use Cases and User Stories

- Scenarios and use cases are both methods of describing the user's interaction with a system. However, they serve very different functions.
- Goal-Directed scenarios are an iterative means of defining a product's *behavior* from the standpoint of specific users (personas).
- This includes not only the system's functionality, but the priority of functions and how those functions are expressed in terms of what the user sees and how she interacts with the system.

Use Cases

- *Use cases*, on the other hand, are a technique based on exhaustive descriptions of the system's *functional* requirements.
- Use cases permit a complete cataloging of user tasks for different classes of users
- No details of how these tasks are presented to the user or how they should be prioritized in the interface.
- **One shortcoming of traditional use cases as a basis for interaction design is their tendency to treat all possible user interactions as equally likely and important.**

User Stories

- *User stories* are used in agile programming methods,
- Typically they aren't actual stories
- They are short sentences phrased like this:
  - "As a user, I would like to log in to my online banking account."
- Typically this is followed by another couple of sentences briefly describing the necessary interface to accomplish the interaction.
- User stories are much more like informally phrased requirements than they are like scenarios;
- They don't describe:
  - The user's entire flow at a big-picture level
  - User Goal.
- Both of these are critical for stripping away unnecessary interactions and targeting what users really need

Using Personas in Scenarios

- *Persona-based scenarios* are concise narrative descriptions of one or more personas using a product or service to achieve specific goals.
- They allow us to start our designs from a story describing an ideal experience from the persona's perspective, focusing on
  - people and how they think and behave, rather than on technology or business goals.

Conditions required

- Use everyday language
- Include details about people and interaction
- Relevant information about the user
- Details of interaction sequence and presentation
- Often give names to the participants in a scenario to make the interaction seem more real
- A concrete example of the system being used, not a generalized account of all the possible functions and alternative results

Three Types of Persona-based Scenarios

- Each with a successively more interface-specific focus:
  - Context scenario
  - Key path scenario
  - Validation scenarios

Context Scenarios

- Is used to explore, at a **high level**, how the product can best serve the needs of the personas.
- The context scenarios are created before any design sketching is performed.
- They are written from the persona's perspective, focusing on human activities, perceptions, and desires.
- It is when developing this kind of scenario that the designer has the most leverage to imagine an ideal user experience

Context Scenario -Example

- Lisa is in lecture and realizes she's confused when the instructor starts talking about mitosis. She takes note of the time. – Later that day she opens up her bSpace course site and goes directly to the webcast for that day and reviews the portions of lecture via the webcast she needed clarification on.

Key Path Scenarios

- Once the design team has defined the product's functional and data elements and developed a Design Framework, a context scenario is revised.
- It becomes a *key path scenario* by more specifically describing user interactions with the product and by introducing the design's vocabulary.
- These scenarios focus on the most significant user interactions, always paying attention to how a persona uses the product to achieve its goals.
- Key path scenarios are iteratively refined along with the design as more and more detail is developed.

Key Path Scenario Example

- Lisa is in lecture and realizes she's confused when the instructor starts talking about mitosis. She takes note of the time. – Later that day she opens up her bSpace course site clicks on the "Most Recent Webcast" link. bSpace switches to the "Use Webcast" View and the webcast for the day plays. Lisa looks at her notes to see the time she noted earlier, and enters it into the "Lecture Time" field and presses "Enter." The lecture jumps forward to the point where the instructor was talking about mitosis.

Validation Scenarios

- Throughout this process the design team test the design solution in a variety of situations.
- These scenarios tend to be less detailed and typically take the form of a number of "what-if" questions about the proposed solutions.

Requirements: The "What" of interaction Design

- The Requirements Definition phase determines the *what* of the design: what information and capabilities our personas require to accomplish their goals.
- It is absolutely critical to define and agree upon the *what* before we move on to the next question: *how* the product looks, behaves, operates, and feels.
- There is clearly a relationship between requirements and functions, think of requirements as synonymous with *needs*.
- Rigorously define the human and business needs that your product must satisfy.
- By clearly defining the user need, designers can then work with technologists to find the best solutions, without compromising the product's ability to help people achieve their goals.

Requirements Definition

- Phases of translation from model to design solution:
  - Requirement definition: what a product is and what it should do – based on persona-based scenario methodology
  - Framework definition: how a product behaves and how it is structured to meet user goals.

The Requirements Definition Process Steps

- Create problem and vision statements
- Explore/brainstorm
- Identify persona expectations
- Construct context scenarios
- Identify design requirements
  - Designers can expect to cycle through Steps 3 through 5 several times until the requirements are stable.

Step 1: Create Problem and Vision Statement

- At a high level, the *problem statement* defines the purpose of the design initiate.
- A design problem statement should concisely reflect a situation that needs changing, for both the personas *and* the business providing the product to the personas

Example Problem Statement

Company X's customer satisfaction ratings are low. Market share has diminished by 10 percent over the past year because users have inadequate tools to perform tasks X, Y, and Z that would help them meet their goal of G.

Problem Statement

- Connecting business issues to usability issues is critical to drive stakeholders' buy-in to design efforts and to frame the design effort in terms of both user and business goals.

Vision Statement

- The **vision statement** is an inversion of the problem statement that serves as a high-level design objective or mandate.
- In the vision statement, you lead with the user's needs, and you transition from those to how the design vision meets business goals

Example : Vision Statement

The new design of Product X will help users achieve G by allowing them to do X, Y, and Z with greater [accuracy, efficiency, and so on], and without problems A, B, and C that they currently experience. This will dramatically improve Company X's customer satisfaction ratings and lead to increased market share

- The content of both the problem and vision statements should come directly from
  - research
  - user models
- User goals and needs should be derived from:
  - Primary Personas
  - Secondary Personas
- Business goals should be extracted from:
  - Stakeholder interviews.

- Problem and vision statements are useful when you are redesigning an existing product.
- They also are useful for new-technology products or products being designed for unexplored market niches.

Step 2: Explore and brainstorm

- The primary purpose here is to eliminate as much preconception as possible.
- This allows designers to be open-minded and flexible as they use their imagination to construct scenarios and to use their analytical skills to derive requirements from these scenarios.
- A side benefit of brainstorming at this point in the process is that it switches your brain into "**solution mode**."

Step 2: Explore and brainstorm

- Exploration, as the term suggests, should be unconstrained and uncritical.
- Allow for any kind of ideas and record them
- May not be useful but you could find the germ of something wonderful that will fit into the design framework you later create.

Step 3: Identify persona expectations

- Recap: a person's **mental model** is their own internal representation of reality— the way they think about or explain something to themselves.
- It's absolutely critical that the **represented model** of the interface— how the design behaves and presents itself —should match the user's mental model as closely as possible, rather than reflecting the implementation model of how the product is actually constructed internally.

Step 3: Identify Persona Expectations

- To accomplish this, we formally record these expectations. They are an important source of design requirements.

Step 3: Identify persona expectations

- For each primary and secondary persona, we identify the following:
  - Attitudes, experiences, aspirations, and other social, cultural, environmental, and cognitive factors that influence the persona's expectations
  - General expectations and desires the persona may have about the experience of using the product
  - Behaviors the persona will expect or want from the product
  - How that persona thinks about basic elements or units of data (For example, in an e-mail application, the basic elements of data might be messages and people.)

- Persona descriptions may contain enough information to answer these questions directly; however, the research data we gathered will remain a rich resource
- Here are some things to look for:
  - What do the interview subjects mention first?
  - Which action words (verbs) do they use? What nouns?
  - Which intermediate steps, tasks, or objects in a process *don't* they mention? (Hint: These might not be terribly important to how they think about things.)

Step 4: Construct context scenarios

- **Context scenarios** describe the broad context in which usage patterns are exhibited and include environmental and organizational considerations
- While all scenarios are stories about people and their activities, context scenarios are the most story like of the three types we employ.
- *This is where design begins*. As you develop context scenarios, you should be focusing on how the product you are designing can best help your personas achieve their goals.
- Context scenarios should be broad and relatively shallow in scope.
- They should not describe product or interaction detail but rather should focus on high-level actions from the user's perspective - map out the big picture first.

Construct context scenarios

- Context scenarios address questions such as the following:
  - In what setting(s) will the product be used?
  - Will it be used for extended amounts of time?
  - Is the persona frequently interrupted?
  - Do several people use a single workstation or device?
  - With what other products will it be used?
  - What primary activities does the persona need to perform to meet her goals?
  - What is the expected end result of using the product?
  - How much complexity is permissible, based on persona skill and frequency of use?

- Initially while writing context scenario don’t worry about exactly how things would be done .
- **Context scenarios should not represent system behaviors, focus on the goals.**
- **Focus on the What instead of How**

Pick a persona

What is that's personas GOAL for using your product?
Tell their story.

The most perfect, magical story of them using your software and everything is good.

All of life's hurdles are overcome with your product.

No buttons, no errors. No design yet.

A software that works.

- **Set the scene.**
  - Where are they? What is the situation?
- **Establish the goal or conflict.**
  - What worries them? What is the dream?
- **Overcome crises along the way.**
  - What are the kind of hurdles on usually run into?
- **Achieve resolution.**
  - How will your software save the day?
- **Reach denouement.**
  - Then what? How do they leave?

Scenarios

PRIMARY PERSONA

Francis
the First-Time Home Buyer

"I just don't know where to start!"

- Looking for first home
- Low real estate knowledge
- Very intimidated

Francis and Michael have agreed that she'll take charge of learning more about the home-buying process. She goes online, does a Google search for "Atlanta real estate," and follows a link to the site's home page. She sees that she can search for houses from the home page, so just for fun, she does a quick Atlanta search to see what kinds of houses show up. There are lots of houses in many different neighborhoods, and she easily narrows her results down to the area where she and Michael live, using a map. There are still many results, and she's not quite sure which search options to use to narrow the search further. Then she notices a link for first-time home buyers and follows, it hoping for basic how-to information.

The link takes Francis to a step-by-step tutorial that explains the whole process, and she immediately feels like she's found the right site from which to begin her house search. She carefully reads some articles for first-time home buyers, taking notes as she reads. She bookmarks other articles she wants to go back and read later. She also comes across the site's calculator and starts trying different combinations of numbers to find out what she and Michael can afford. She particularly likes the glossary of terms so that she can finally figure out what "points" are and learn more about different types of mortgages. After an hour and a half of reading, her brain is full, and she shuts her computer down for the day, feeling like she got an excellent start.

The next day, she comes back to the site to look up information specific to Atlanta neighborhoods and finds lots of information on each. She's able to focus on five neighborhoods that look particularly good. The fun begins that night, when she takes Michael through all that she has learned, and they set up a regular schedule for looking at online house listings.

From Steve Mulder's The User is Always right http://www.slideshare.net/MulderMedia/the-user-is-always-right-making-personas-work-for-your-site

Adjust for frequency

Daily Use

- Usually only 2-3 of these
- Clear training, quickly removed
- Shortcuts & power tools
- Customization
- Tell the story of the 300th use as well as the 1st

- NOT ALL APPS HAVE DAILY USE

Infrequent, Common Scenarios

- Users do it only once in a while
- Many users do it – core to business
- Expected to “just work”
- Users unlikely to pay close attention
- Needs excellent unobtrusive help
- Will be taught each use

Necessary-Use Scenarios

- Must be done, but aren't done often
- User needs to get right, be comfortable it works
- Changing printer cartridges, clearing memory, fighting a virus, visiting a potentially infected website, deleting a lot of files
- Must have good help
- Must have excellent error handling
- No need for customization or shortcuts

Edge-Case Scenario

Unusual situations

Programmers must handle, or code will not work

Design can largely ignore beyond quick fixes.

Work on last (or not at all)

DESIGN HERE
REVIEW HERE
close eyes
IMPORTANCE to get right
USERS
FREQUENCY of use

When Stan is out of the office and working at a client's location, the last thing he feels like doing at the end of a long day is entering his hours into his company's time tracking tool. So he usually puts this off until Friday and then grimaces to himself at 6:00 as he launches the VPN tool, logs in, and then points his Web browser to the intranet home page. Fortunately, there's a link to the time tracking tool right on the home page, along with other commonly used tools.

Once in the time tracking tool, he's happy to see that it remembers his activities from the previous week, so all he has to do is enter new hours for this week for the same activities. He started a new project this week, so he clicks New Project and selects his client from the list that appears, then easily enters his hours. Soon he's finished, and what used to take a half hour now takes ten minutes. He glances at the total to make sure all the hours are there, then clicks Submit.

After the confirmation message appears, the Web browser redirects Stan to the intranet home page, where he immediately notices that yesterday's company presentation is now available. He missed the meeting, so he quickly downloads the presentation to look at while he's on the flight home tomorrow. While it's downloading, he sees from a dashboard on the home page that the company message board has come to life with a discussion about what Web 2.0 means to the business. He can't resist clicking to see what Riccardo has to say on this topic, and before he knows it spends 15 minutes reading various posts. He even posts a quick URL of a Google Maps mashup he just found.

Example Context Scenario

1. While getting ready in the morning, Vivien uses her phone to check her e-mail. It has a large enough screen and quick connection time so that it's more convenient than booting up a computer as she rushes to make her daughter, Alice, a sandwich for school.
2. Vivien sees an e-mail from her newest client, Frank, who wants to see a house this afternoon. The device has his contact info, so now she can call him with a simple action right from the e-mail.
3. While on the phone with Frank, Vivien switches to speakerphone so she can look at the screen while talking. She looks at her appointments to see when she's free. When she creates a new appointment, the phone automatically makes it an appointment with Frank, because it knows with whom she is talking. She quickly enters the address of the property into the appointment as she finishes her conversation.
4. After sending Alice off to school, Vivien heads into the real-estate office to gather some papers for another appointment. Her phone has already updated her Outlook appointments, so the rest of the office knows where she'll be in the afternoon.
5. The day goes by quickly, and she's running a bit late. As she heads towards the property she'll be showing Frank, the phone alerts her that her appointment is in 15 minutes. When she flips open the phone,

it shows not only the appointment, but a list of all documents related to Frank, including e-mails, memos, phone messages, and call logs to Frank's number. Vivien presses the call button, and the phone automatically connects to Frank because it knows her appointment with him is soon. She lets him know she'll be there in 20 minutes.

6. Vivien knows the address of the property but is a bit unsure exactly where it is. She pulls over and taps the address she put into the appointment. The phone downloads directions along with a thumbnail map showing her location relative to the destination.

7. Vivien gets to the property on time and starts showing it to Frank. She hears the phone ring from her purse. Normally while she is in an appointment, the phone will automatically transfer directly to voicemail, but Alice has a code she can press to get through. The phone knows it's Alice calling, and uses a distinctive ring tone.

8. Vivien takes the call — Alice missed the bus and needs a pickup. Vivien calls her husband to see if he can do it. She gets his voicemail; he must be out of service range. She tells him she's with a client and asks if he can get Alice. Five minutes later the phone makes a brief tone Vivien recognizes as her husband's; she sees he's sent her an instant message: "I'll get Alice; good luck on the deal!"

Step 5: Identify design requirements

- After you are satisfied with an initial draft of your context scenario, you can analyze it to extract the personas' needs or requirements.
- These **requirements** can be thought of as consisting of *objects*, *actions*, and *contexts*.
  - *Call (action) a person (object) directly from an appointment (context).*
- If you are comfortable extracting needs in this format, it works quite well; otherwise, you may find it helpful to separate them into **data, functional, and contextual requirements**, as described in the following sections.

Data requirements

- Personas' data needs are the objects and information that must be represented in the system.
- Data requirements as the objects and adjectives related to those objects.
  - Common examples include accounts, people, documents, messages, songs, images, as well as attributes of those such as status, dates, size, creator, subject, and so on.

Functional requirements

- Functional needs are the operations or actions that need to be performed on the system's objects
  - translated into interface controls.
- These can be thought of as the product's *actions*.
- Functional needs also define places or containers where objects or information in the interface must be displayed. (These clearly are not actions in and of themselves but usually are suggested by actions.)

Step 5: Identify design requirements

- Similarly other requirements can be better understood through scenarios.

References

- About Face→ Chapter 6

Example: Accessing Drug Information using a PDA

- There has been a false fire alarm raised in the hospital on late Friday afternoon and by the time everything has returned to normal, Dr. Johnston - a male medical student who works in the Gastro-Intestinal (GI) unit finds that he is running thirty minutes behind schedule. Before the alarm was raised Dr. Cameron, the head of the unit had just prescribed a new medication (menafloxin) to Mrs. Duffy – a patient who is already taking three other drugs. Dr. Cameron who is just finishing her shift has asked Dr. Johnston to check in on Mrs. Duffy during his shift to see how she is doing.
- Dr. Johnston arrives in the ward and Mrs. Duffy inquires, “Will there be any interactions with the medications Dr Johnston? Any side effects at all?” As Dr. Johnston is a young, medical student and still learning, he would normally have to leave the patient, find the single copy of the drug interaction book, which would regularly be in use by other students and flip through it until he found the relevant drug. This would obviously take a few minutes and was not very efficient if a doctor was already behind schedule. However, Dr. Johnston and a few other members of the team in the GI unit have just recently started using PDA’s as means of alleviating many of the problems that arise in the busy GI unit.

- Dr. Johnston has only recently started using the PDA but finds it extremely helpful. On hearing Mrs. Duffy's question regarding the drug interactions he retrieves the PDA from his lab coat pocket, inputs his password and quickly accesses the online drug database 'MedCheck'. MedCheck opens within 5 seconds. Dr. Johnston chooses the patients surname from a drop down list. He then asks the patient her first name and date of birth. Submitting this information returns her records from the central database. Dr. Johnston selects the 'Compatibility' window. The patient's current medication is shown. He then simply types "menafloxin" into the database 'check against' text box search facility using the external keyboard and clicks the 'Check Drug Compatibility' button (Fig a).
- An intrusive alert returns the message 'No compatibility problems have been found' (Fig b). This is displayed on the screen within 5 seconds. Dr. Johnston reads the necessary details and lets Mrs. Duffy know that there will be no harmful side effects from the new medication.
- By using the PDA instead of the drug interaction book, Dr. Johnston has saved an estimated 5 minutes which brings him a little closer to getting back on schedule. Consequently, not only has the PDA saved Dr. Johnston valuable time, but by accessing the powerful and up to date drug interaction information available on his PDA, Dr. Johnston may have saved Mrs Duffy from a possible adverse reaction.


MedCheck
Retrieve View Compatibility Dosages Drug Lists
Compatibility
Patient Details
Name Duffy, Mary
ID 021-639-621
DOB 02 Jun, 1949
more
Medication
Current Medication
Medication Amount
Asperin 500mg
Clozapine 25mg
Morulin 100mg
Check Against
Menafloxin
Check Drug Compatibility
Start

Example 2:

Irene, 28

Example

Background: real estate agent, dance instructor

Description: Irene has a hectic life. Dance competitions are approaching and as an instructor, she needs to schedule extra trainings for 15 people, which should also fit into her own busy calendar. Irene is mostly connected through mobile.

Goals:

- Irene needs a easy way to schedule training events for 15 people
- She wants to quickly see which days are suitable for others on the go, since she mostly uses internet on her mobile

It's morning and Irene stops at a gas station on her way to a meeting. While filling the tank she decides to quickly check whether her dance group has agreed upon the next training day.

Irene takes her phone. She logs in to a service and sees and overview of proposed dates. Irene notices that only 11 people of 15 has replied. She also sees that for most next Monday and Saturday suited best. Irene needs the final answer soon, so she send a reminder to those who have not yet replied. Then she closes the phone and continues her journey.

User Stories

Example

"As an organizer, I want to easily schedule an event for several people so that I could teach a dance class."

User Stories

Example

"As an organizer, I want to sent a reminder to those who have not yet replied so I will know which day suites best for all."