

# **Shared Understanding: A Guide to Cactus Discovery Workshops**

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# Introduction

## Why a discovery workshop guide?

At Cactus, we often meet client challenges where multiple stakeholders have conflicting visions, or the project scope needs greater definition or focus — and it's in these situations that discovery workshops provide a perfect solution.

For those unfamiliar with discovery workshops, this guide will demonstrate their value as a key part of the web development process, as well as how Cactus have made them a core component of client service. Discovery workshops form a vital step in project definition and are an ideal way to overcome the challenges that arise when multiple stakeholders hold varying points of view and conflicting visions for the scope of a project. By facilitating a discovery workshop, we streamline the development process and ensure best value for your time and budget.

Our workshops bring together a client's web developers and other stakeholders in order to:

- Prioritize the most valuable features for development
- Plan the development of a product focused on business objectives
- Uncover any discrepancies or areas lacking clarity in the project vision
- Allow accurate estimation of project requirements and timelines

For these reasons, discovery workshops are part of Cactus' best practices for growing sharp web apps the right way.

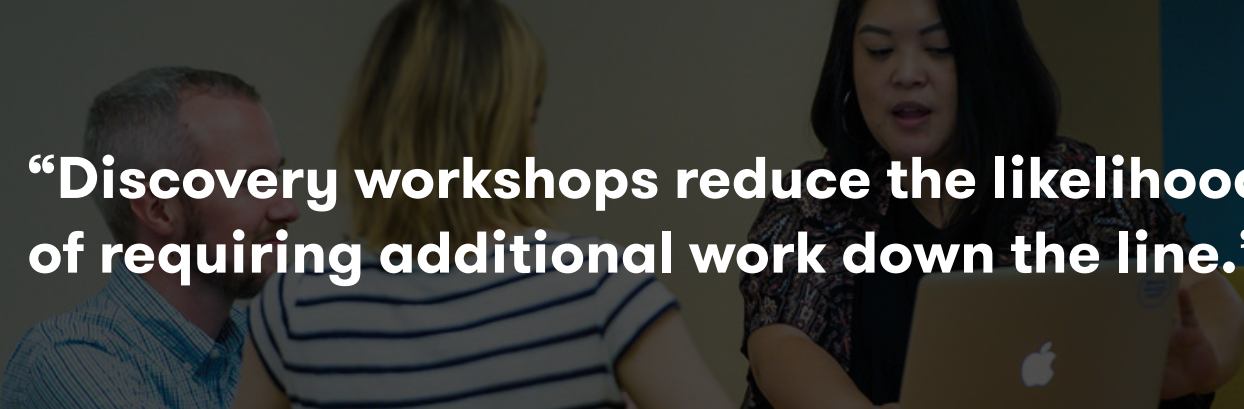
## Why a discovery workshop guide? (cont.)

That being said, we often find that stakeholders are unaware of the value of a workshop. They may even question whether a workshop is necessary before beginning work — after all, it may appear to add time and cost to a project. At Cactus, we've proven that discovery workshops ensure projects not only hit their objectives but that they do so on budget, reducing the likelihood of requiring additional work further down the line.

This guide will:

- Demonstrate how we achieve these improvements
- Give you an increased understanding of what a Cactus discovery workshop is
- Share some of the techniques involved in building a shared understanding of a project
- Explain how this knowledge translates into tangible benefits during the estimation and development process

It is by no means exhaustive, but rather an introduction to some of the aspects of user-centered requirements gathering we find most useful at Cactus.

A photograph of three people (two men and one woman) sitting around a table, looking at a laptop. The image is dimmed and serves as a background for the quote.

**“Discovery workshops reduce the likelihood of requiring additional work down the line.”**



## Getting the most out of this guide

This guide is intended for those who are relatively new to applying user-centered approaches to the software development process. We'll call out important terms and provide diagrams or pictures where helpful.

As always, we're happy to hear from you with any questions or requests for further information. Reach out to us at [solutions@cactusgroup.com](mailto:solutions@cactusgroup.com) to connect with a Cactus team member.



**Important or useful terms** will be called out in boxes like this one.



## What is a discovery workshop?

First, let's take a look at what a discovery workshop is and how it will benefit you. Our workshops focus on user-centered requirements gathering. This is a process during which the client, the development team, and other stakeholders come together to agree upon the proposed system's business and user goals, user workflows and tasks, and the prioritized set of features the tool will support. It allows both Caktus and client to compile and review all available information ahead of the project kickoff, and begin to define the project's objectives in a clear, efficient and effective manner.

One of the major challenges we often encounter is a need to narrow the scope of a project in order that essential features don't get lost. We explore clients' business objectives and user needs to ensure team focus is on the most important success criteria for the project. Our user-centered methods establish a concrete understanding of both stakeholders' and users' needs before any code is committed, thereby helping us make the best possible decisions about what to build.

In doing so, we reduce risks and decrease the likelihood of needing to redo work down the road, thereby reducing the overall cost of the project.

## What is requirements gathering?

One of the first stages of a Caktus discovery workshop is requirements gathering. This takes place before any software development work can begin (although it also continues throughout a project), and is the process of gathering the information that sets out not only what the software will do, but also how it will work.

When we build software, we build a digital experience. To ensure the best results possible, Caktus' requirements gathering keeps the user perspective at the forefront. Only then can we build an experience that addresses the user's needs, goals and **pain points**.



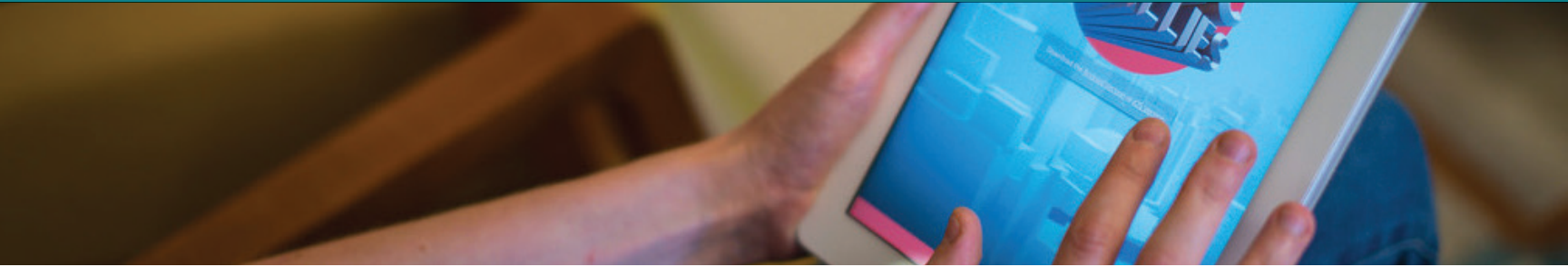
**Pain points:** Problems or obstacles that obstruct the achievement of goals.

In requirements gathering, we also ask ourselves what the user experience will be, ensuring we design and build products that:

- Are intuitive
- Provide a solution to an existing problem
- Anticipate additional frustration or problems

Before you can build a solution that addresses users' needs, it's necessary to understand those needs and potential pain points. By designing experiences specifically around users' needs, we improve customer satisfaction and, by extension, increase return on investment (ROI) and drive profit and/or app adoption.





## What is user experience?

In this guide, “user experience” means the experience of a user interacting with a specific system such as a web application or another piece of software. At Cactus, we’re fully focused on the benefits of great UX, and we gather requirements in a user-centered process through our discovery workshops.

To build a great digital experience, these are some of the questions we typically try to answer:

- Who will be using the system?
- How do users typically accomplish their tasks?
- What goal(s) does the user want to accomplish with this system?
- What user pain points can this software help address?
- Does the application enable the user to achieve what they set out to do in the simplest way possible?
- Is the content structured in such a way that it provides clues as to how the user can interact with the application?
- Does the content structure indicate where users can find the information they seek?



## What is the role of UX research in a discovery workshop?

A Caktus discovery workshop is ideally informed by UX research conducted in advance. UX research methods may include user and stakeholder interviews, surveys, a **competitive landscape review**, **content inventory**, or other techniques of gaining insight into user needs. Valuable information can also be obtained from the data or analytics of an existing application.



**Competitive landscape review:** A process of analyzing experiences that competitors deliver.



**Content inventory:** A process of cataloguing and analyzing all contents of a website.

While data analytics are incredibly powerful in identifying the “whats” and the “wheres” of website or app traffic, they tell you nothing about the “why” of user behaviors. Without an answer to the “why,” you risk misinterpreting the analytics.

A blurred background image showing several people in a meeting or workshop setting, engaged in discussion.

**“Without an answer to the ‘why’ you risk misinterpreting the analytics.”**

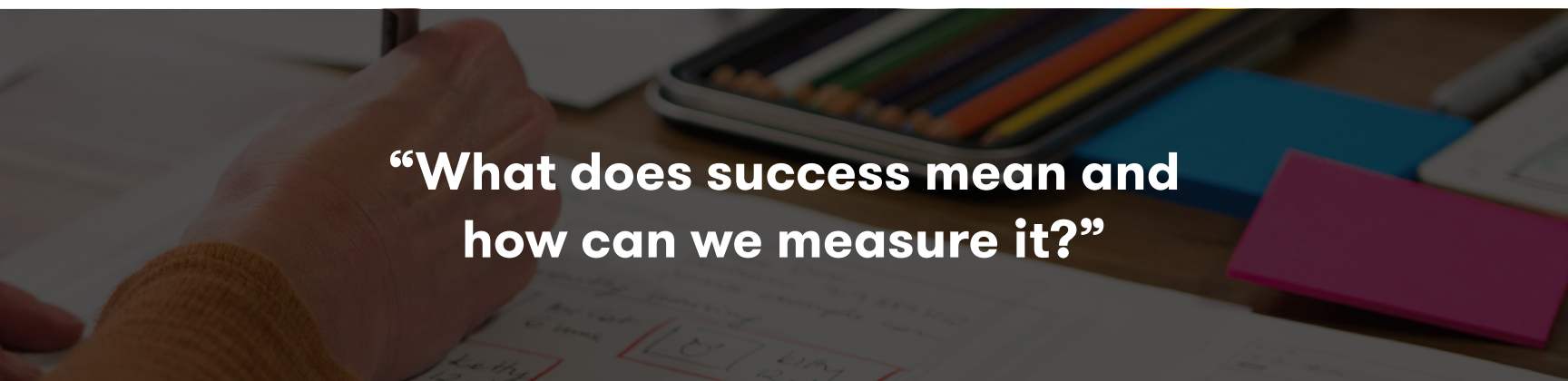
## What is the role of UX research in a discovery workshop? (cont.)

By including UX research as part of our requirements gathering process, we help clients build effectively-targeted products that address the specific pain points of their users. This level of targeting enables us to drastically refine where resources should be allocated and keep the project on time and on budget.

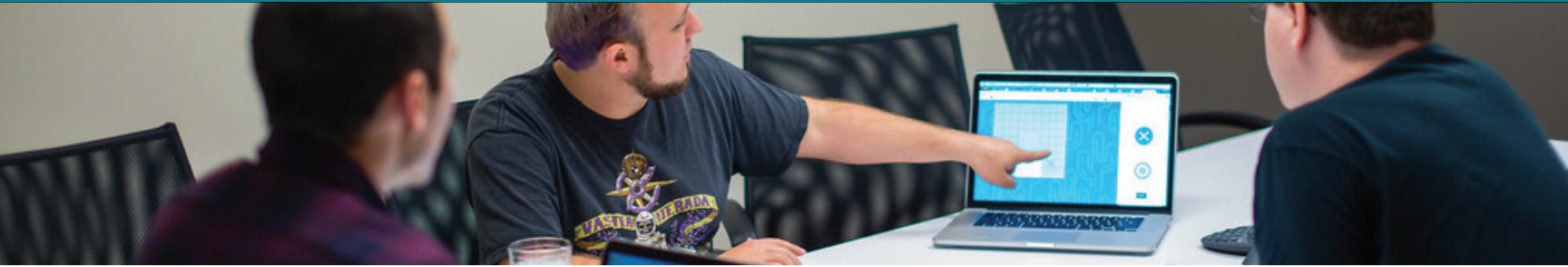
We work with our clients to combine UX research with existing knowledge held by client stakeholders to ensure maximum value is derived from the conversations and activities that form part of our discovery workshops. While this research tends to be of greatest benefit if conducted in advance of the workshop, it can still be useful if applied later to fill in any knowledge gaps that are identified.

We structure most discovery workshops around three questions:

- What is the problem we are trying to solve?
- For whom are we solving this problem?
- How are we going to solve this problem?



**“What does success mean and how can we measure it?”**



## What is the problem that we are trying to solve?

When framing the problem(s), Cactus works closely with clients to answer the following questions:

- What is the challenge we are trying to overcome?
- Who does the problem affect?
- Why do we need to solve this problem?
- What does success mean and how can we measure it?
- What constraints do we need to accommodate?

Answers to these questions may be drawn from business analytics or existing UX research.

During the workshop, we utilize the following activities to drill into the problem(s) we're trying to solve:

- Business goals brief
- User goals brief
- Success criteria analysis
- Constraints analysis
- SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis

## For whom are we solving the problem?

During the workshop, we utilize the following activities to drill into the problem(s) we're trying to solve:

- What are the demographic, psychological, and behavioral characteristics of the users?
- What are users' goals, needs, and pain points?
- What outcomes do I need to support?
- What are the workflows users employ?
- How do users interface with the product?
- How do users leverage technology in their life and/or work?
- What solutions would best serve the users?
- Other questions about users' lives and work, and their interactions with similar products.

The answers to these questions usually come from UX research or from the experience of client stakeholders participating in the workshop. During the workshop we take advantage of that knowledge to:

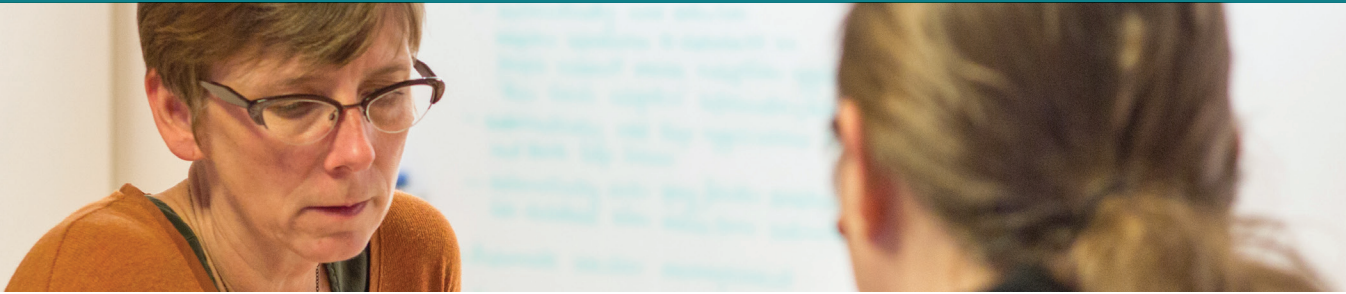
- Identify the target user segment
- List user types
- Develop **user personas** (or **proto-personas**)



**User persona:** A user profile based on user research.



**Proto-persona:** A user profile based on assumptions rather than user research.



## How are we going to solve this problem?

Having identified the problem at hand, Cactus' discovery workshops then focus on **user story** mapping or **content modeling**. The technique used depends on whether the project is to build an interactive web app or develop a customer-facing, content-rich website, respectively.



**User story:** A statement that captures the user type, function, and benefit of a feature.



**Content modeling:** A representation of content types and their relationships.

These two project types present different challenges and requirements. With a web app, the focus is on a variety of interactive tasks whereby user input results in a desired system output (for example, a hotel-booking app). For a customer-facing website, the objective is often to deliver content. Users must be able to easily locate content such as informative text, videos, PDFs, or even simple blog posts and then take a desired action (i.e., read, bookmark, download, or share).

Let's look more closely at some of the techniques we use to find solutions in our discovery workshops.

## How are we going to solve this problem? [cont.]



### User story mapping

User story mapping is a technique used to plan out the user flows and tasks an app must support. For web app development projects, it is essential to giving design, coding, UX, and testing teams an understanding of user flows, user tasks, and client priorities. It also ensures key features haven't been overlooked. Cactus works with clients to identify top-level user actions (or user outcomes) before creating a user story map. We arrange these top-level actions in a row at the top of the map, which we refer to as the narrative flow (or backbone) of the whole user story.

#### User Story Map



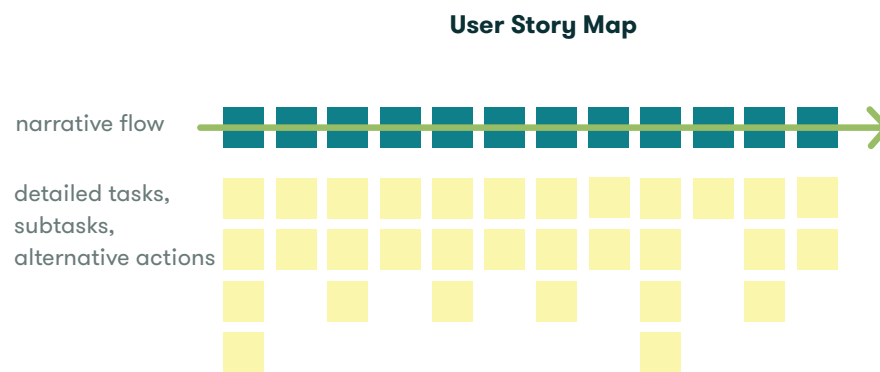
*Top-level user actions mapped out.*

Let's take a look at how this could work if you wanted to build a to-do list application. For an app like that, the narrative flow might include user outcomes such as:

- Manage my account
- Manage my to-do list
- Share my to-do list

## User Story Mapping [cont.]

Once the high-level actions have been identified and represented in the narrative flow, we move on to identify detailed tasks, subtasks, and alternative ways of accomplishing those tasks. To distinguish these from the narrative flow in the user story map, we write them out on different color sticky notes and add them to the user story map under the relevant high-level tasks.



*A user story map indicating subtasks under the main tasks.  
Adapted from the book User Story Mapping by Jeff Patton.*

In the case of this example to-do list application, under “Manage my account,” we could list detailed tasks such as:

- Create my account
- Edit my account
- Delete my account

and subtasks such as:

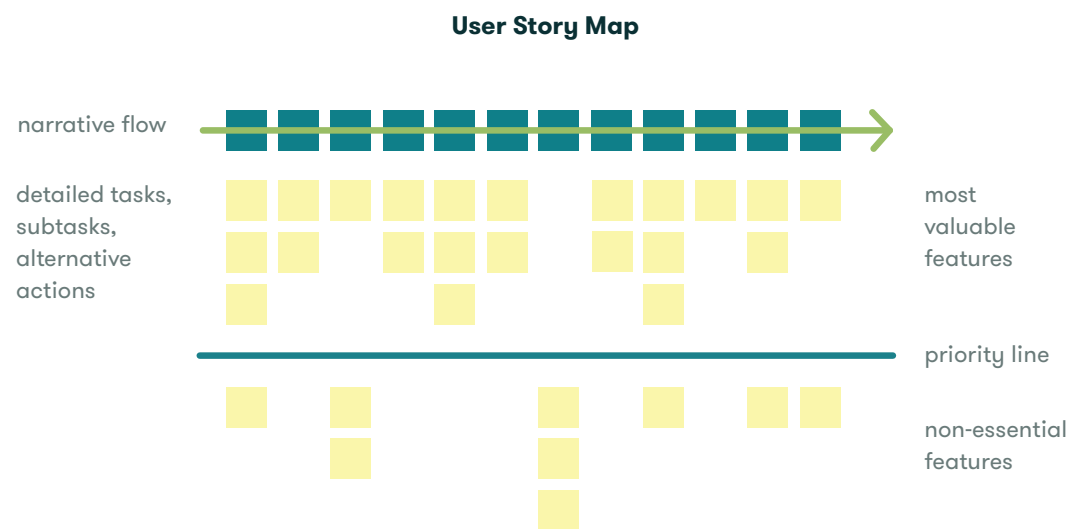
- Edit my contact information
- Edit my password
- Edit my avatar



## User Story Mapping [cont.]

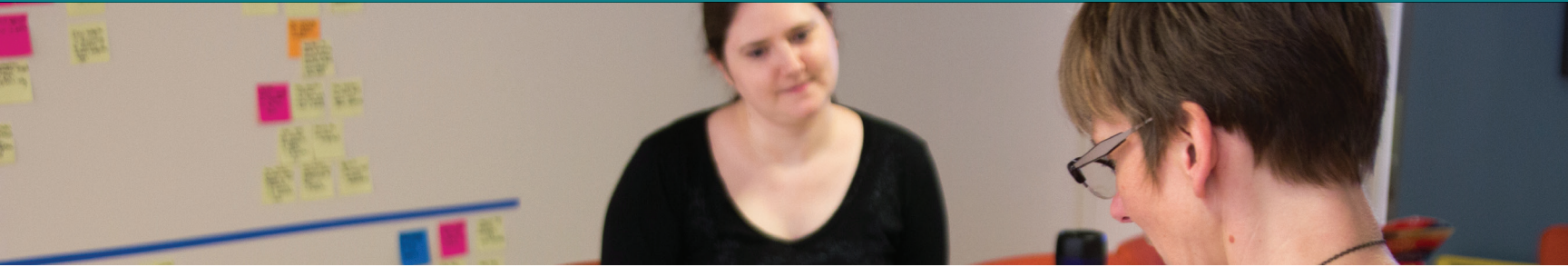
Once the entire application is mapped out, we move onto one of the most important stages of the whole process: identifying the most valuable features and prioritizing accordingly.

This is a vital part of Caktus’ discovery workshops, as it enables us to tighten the project’s scope and ensure that the application delivers essential business and user value, as determined by stakeholders. With nonessential features determined, we then draw a prioritization line across the user story map and move sticky notes that represent non-essential stories (or features) under the priority line.



*A user story map with a priority line indicating the most valuable features. Adapted from the book User Story Mapping by Jeff Patton.*

In our experience, clients find that the greatest value in completing a user story map is that it builds a shared understanding between vendor and client teams around the features an application must support in order to deliver business and user value.



## User Story Mapping [cont.]

User story mapping also achieves the initial ordering of priorities and reduces the amount of guesswork that goes into estimating the time, cost and resources required to complete a project. The team can estimate coding, UX, and QA work with much more accuracy, providing better value for money and a more accurate scope of work.



### Content Modeling

Creating a **content model** provides a more detailed understanding of how a website should be structured to facilitate content delivery. It is particularly useful for content-rich marketing websites, as it helps refine content types and their relationships. It also performs the important role of helping stakeholders and development teams gain a clear understanding of what the content will consist of and how best to structure it.



**Content model:** A representation of content types and their relationships.

We begin by studying the needs users have when they come to the website, identifying nouns to describe user needs and goals, and analyzing which content types connect to each other.

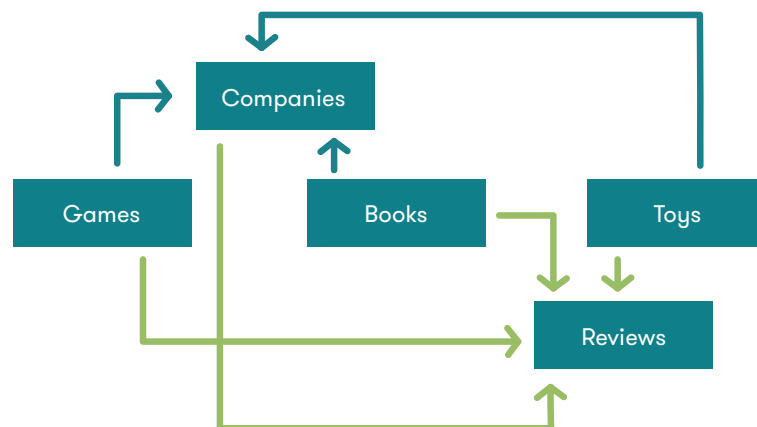
## Content Modeling [cont.]

For an existing website, a content inventory is a necessary prerequisite to content modeling. We compile a spreadsheet that details the following:

- Different content types, associated page types, and file formats
- Target audience
- Desired user actions (e.g., watch, download, interact)
- Intended placement on the website
- How content will be updated and who will carry out the updates
- Any other relevant notes such as priority, future plans, or preferences

Let's take a look at an ecommerce website as an example. This site may include products (such as books, games, and toys), but also names and information about the companies that produce them, as well as user reviews. Content modeling enables us to identify content types, and then draw relationships between them:

- Books, games, and toys have companies that make them and reviews written about them.
- Companies also have reviews written about them, etc.



Content types and their relationships.

## Content Modeling [cont.]

Content types are then broken down into chunks. Chunks represent the details of each content type that can be easily arranged for display at various screen sizes. This activity prepares the client stakeholders for the final tasks of writing new or amending existing content, which they do independently after the workshop.

In our example, a book (content type) showcased on an ecommerce website may contain the following details (content chunks):

- Title
- Author
- Description

Books	Games	Toys	Companies
Title	Title	Name	Name
Author	Type / Device	Age	Location
Description	Description	Description	Contact Info

*Content types broken up into chunks that represent their details.*

For a new website without fully developed content, stakeholder interviews are a good method to generate an understanding of what content might be appropriate to support user goals.

## Content Modeling [cont.]

Content modeling leads to a shared understanding of content types, their parts, and the relationships between them. It helps uncover the details of the content structure. Simply put, it helps stakeholders and development teams determine what the content will be made of and how it will fit together.

Content modeling also creates a solid foundation for the client team to plan and write content in a way that will support user **mental models** and stay focused on what matters most to users. For the developers working on a content management system, it sets the stage for designing reusable content patterns that adapt easily to a range of screen sizes when delivered in the context of a responsive web interface.



**Mental models:** The way a person thinks about how something works, based on their knowledge and experience of how other things work.

As with much of Caktus' discovery workshop process, this step aligns conflicting visions among stakeholders, and improves project definition to ensure that no resource is wasted.

A photograph of a wooden table in a workshop setting, covered with papers, sticky notes, and markers. A person's hands are visible, writing on a piece of paper.

**“Content modeling helps determine the content and how it will fit together.”**



## From discovery to development

Equipped with a shared understanding of the proposed application's requirements, as well as the most valuable features needed to make that tool effective, we can move from the discovery workshop to the development effort.

### User story map to user stories

After a discovery workshop, we translate every stage of the user story map into a properly-structured user story. In Agile software development, a user story is a brief description of a desired feature written from the perspective of an end-user and capturing the user outcomes each feature is meant to support. A user story follows a prescribed format:

As a *[user type]*, I want *[feature]* so that *[benefit]*.

We write user stories as a team on index cards and assign **acceptance criteria** to each story. These stories are then estimated by the development team. There are a variety of Agile estimation techniques available, for which the end result is a fully-estimated initial product backlog.



**Acceptance criteria (AC):** The conditions a user story must satisfy to be considered done or complete.

## User story map to user stories [cont.]

It is important to note that only an initial prioritization is done based on user story mapping. In Cactus' style of Agile development there is always room to update and re-prioritize tasks, so it shouldn't be assumed that the backlog established at the beginning of a project is the final one.

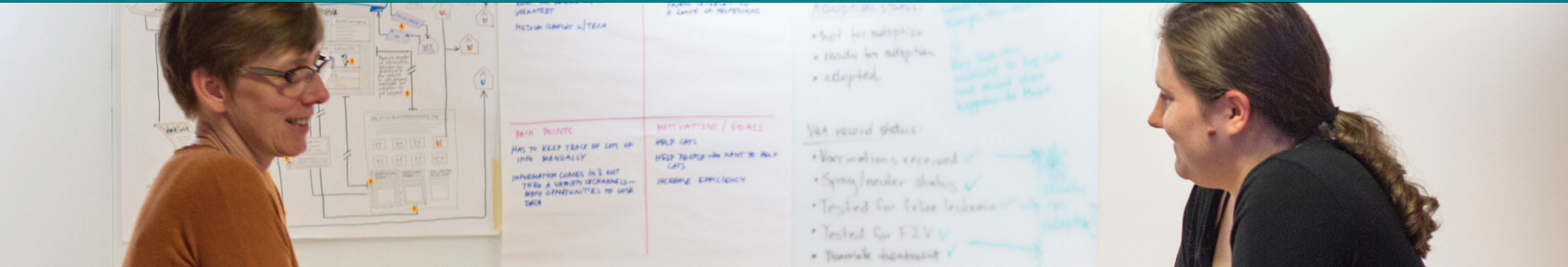
Equally, some tasks of the tasks listed at the start may be discarded or deprioritized if there are project changes along the way. The project manager works with client stakeholders throughout each project to ensure that any changes to budget, deadline, and desired features are appropriately accounted for in prioritization.

This whole process – from user story mapping, to writing and estimating each user story – gives development teams a strong foundation on which to base the development effort. User story mapping is a perfect way to determine what user tasks must be supported and how they break down into subtasks. It also gives clarity on which tasks are not essential for the application to deliver business and user value.

A photograph of two men in a meeting. One man is pointing at a whiteboard with a diagram, and the other is pointing at the same area. The whiteboard has some blue and green markings. The image is darkened to serve as a background for the quote.

**“Find clarity on which tasks are not essential for the application to deliver value.”**





## Conclusion

Whether approaching a web development project from a technical perspective or a non-technical one, it can be easy to assume you know exactly what should be built. Caktus takes a user-centered approach to requirements gathering, combined with UX research, to challenge these assumptions and refocus attention on end users' needs.

Caktus' discovery workshops are an ideal opportunity for a development team and a client team to sit down, collaborate, and build a shared understanding of the product to be developed in a practical, hands-on fashion. We work from existing data to frame the problem you need to solve, effectively identify your target segments and user types, and come up with solutions.

In the process, we also identify knowledge gaps and areas where additional UX research might be needed. On projects in which the problem is well-framed and the users are understood, we work with stakeholders to map out user actions, tasks, and workflows using a technique that best fits the needs and budget of a given project.

## Conclusion [cont.]

Working together with our clients, we come out of a workshop with a summary of product goals, identified target user segment and user types, and a list of the most valuable content or most valuable product features.

By utilizing user-centered methods and techniques to establish a solid, shared understanding of stakeholders' and users' needs before any code is committed, we increase our chances of making smart decisions about what to build. In doing so, we drastically reduce conflicting visions among client stakeholders, reducing the potential for rework down the road. In this way, a Cactus discovery workshop is the first step in ensuring projects are delivered on time, on budget, and support the right features.

To learn more about discovery workshops at Cactus or to speak with our team about participating in a workshop for your project:

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