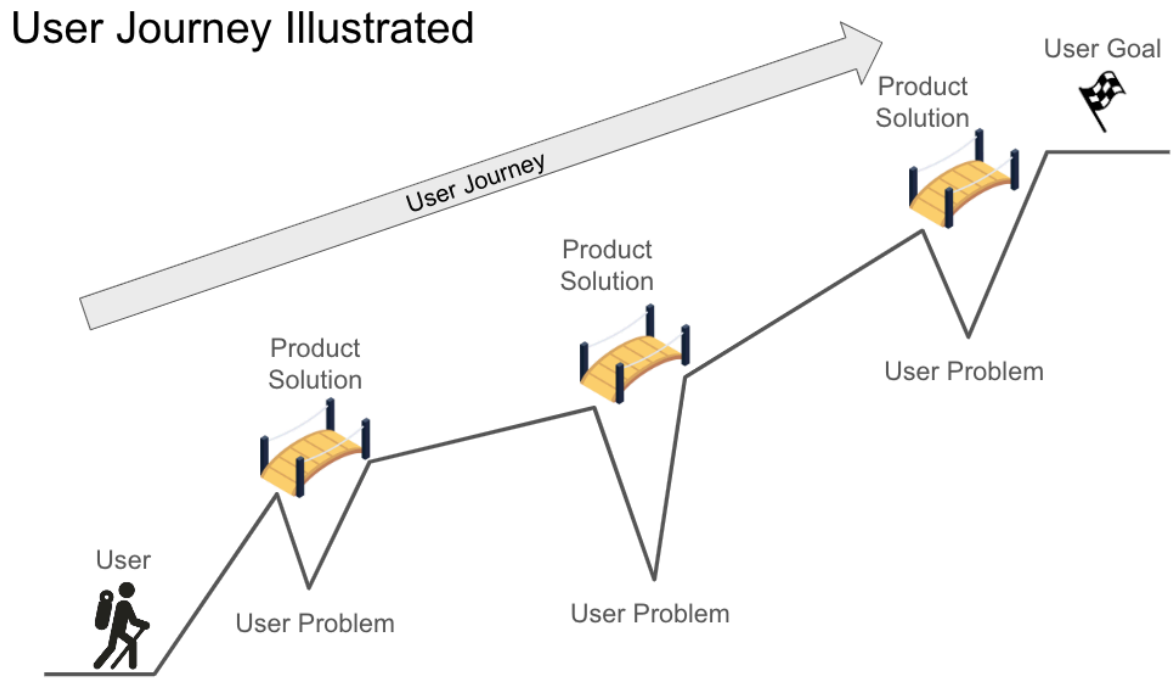
Product Sense: How to Define a Product in 30 Minutes.

Tools, tips, pitfalls, reality checks.

Products address the **problems** that people encounter along their **user journey** to achieve a **goal**.



The following are rough steps to define products:

1. Establish a space.
2. Establish goals.
3. Identify human users in the space.
4. Identify problems human users encounter.
5. Prioritize user-problem pairs. Select a target pair.
6. Define goal for solution. Identify solutions that address problem.
7. Prioritize solutions. Select a target solution.

Sometimes, completing downstream steps can reveal flaws in upstream steps; in this case, it may be necessary to go back and re-do them if you have time.

The intention of the above procedure is to progressively narrow to a specific set of human users and their problems. Once you select a specific user-problem pair for your product to address, you can ideate solutions that may address it.

Products typically serve a particular user population and address a particular set of problems that it encounters. Focus allows products to more fully/deeply address a population's needs and thereby increase the probability that it perceives enough value in using the product so that it pays for it.

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Establish a Space

Human Life Spaces

Examples of “human life spaces” include “health,” “travel,” “food, ”or “music.” You can cut these broad spaces into smaller subspaces. For example, “health” can be cut into “eating healthy,” “exercising”, or “receiving medical care.” There is no single right answer.

The motive of cutting spaces into smaller subspaces is to narrow down the possible populations and their problems that your yet-to-be-defined product will address; this narrowing eases the identification of a specific set of users and their problems. With the above cut of “health,” you can choose to explore problems that people encounter while “eating healthy,” “exercising,” or “receiving medical care.”

The “music” space can be cut into “listening/watching to recorded music,” “listening/watching live concerts” or “creating music.” Again, there is no single right answer. You can cut it differently.

Product Form Factor Spaces

Is the target product an application on a smartphone? Is it an appliance for a kitchen? Is it a kiosk at a 7 Eleven? Constraining the form factor narrows the space of possible solutions.

Reality Check: Shouldn’t the form factor be determined during solution formulation stage further down in this procedure? Yes, that’s another way to do it. Applying constraints too early in the product design process might narrow the solution space too much and result in a suboptimal solution. However, in a 30 minute exercise, constraining the solution to a form factor can make it easier for you to imagine solutions.

Geographic Spaces

Select a target geography, such as “the US.” It’s usually a good idea to explicitly declare a target geography because it is a factor in determining the users, their problems, and ultimately solutions that effectively address their problems. For example, the users/problems/solutions in a developed country where 5G cell phone infrastructure is commonplace may be different from ones in a developing country that has slower cell phone infrastructure.

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Establish Goals

There are many types of goals. A company achieves a product's product lifecycle goals by helping its customers achieve user goals. Product performance goals help a company focus its product refinement efforts.

Product Lifecycle Goals

Product lifecycle goals refer to milestones that any product must achieve on its way to the ultimate goal of profitability.

A product's first lifecycle goal is **product market fit**. An MVP's value proposition to these users should be compelling enough for users to try the product for the first time. Using the product must deliver enough value to the user for him to continue using it. A product has achieved product-market fit when an increasing number of users try the product and continue to use it without extraordinary marketing/sales effort by the company.

Scaling is a lifecycle goal that follows **product market fit**. Depending on how a product is performing, different product refinements can facilitate scaling of a company's user base. See "Product Performance Goals" below. Scaling can also involve serving additional user segments, modifying technology infrastructures to handle more usage, hiring/training a greater number of human resources to support a greater number of users, and creating internal tools that human resources, such as customer service representatives, can leverage to multiply their productivity.

Scaling is typically a required step before a product achieves the lifecycle goal of **profitability**. Scaling results in spreading of a company's fixed cost across a greater population of customers. The resulting reduction of fixed cost per customer is one driver to achieving the ultimate goal of profitability.

Product Performance Metrics Goals/Categories

Product performance metrics goals include the following types:

1. **Adoption** — get users to try the product for the first time
2. **Engagement** — get users to use the product frequently/deeply/broadly
3. **Retention** — get users to come back/continue using
4. **Monetization** — get users (not necessarily all but some) to pay

Performance goals can be expressed as metrics — some numbers that must be achieved within a timeframe.

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User Centric Goals/Product Mission

Companies create value for their users by helping them achieve goals that could not previously be achieved or achieve existing goals more easily. User centric goals explain the thematic direction of how a company and its products help users over the longer term.

A company level goal can be abstract. For example, Google's company level goal is "organize the world's information and make it universally accessible and useful." Product level goals align to the overarching company goal.

Depending on the company and its products, user centric goals can be company level for some and product level for others. Here are examples:

1. "Make it easier to get/stay fit." "Easier" can mean that a goal can be achieved in less time, money, effort by the user.
2. "For any period of time a user spends listens to music, maximize user delight."
3. "Make it easier for users to meet their life partners."

If the 30 minute exercise's context is creating a new product for a company that already has a company level user centric goal, then it may be helpful to articulate how the new product's goal aligns to the company's. If the context is to create a new product for a new company that doesn't have a declared user centric goal, then declaring a company goal is a good idea.

Goals are necessary to bring focus to what user problems should be addressed and which should not be addressed. For example, Google is unlikely to build a theme park like Great America as a product no matter how great the project's ROI because theme parks don't align to the company goal of "organizing the world's information."

Reality Check: Companies don't adhere to their company goal 100% of the time. For example, AWS is an exception to Amazon's overall goal to "serve consumers through online and physical stores and focus on selection, price, and convenience."

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Identify Human Users in the Space

Stakeholders

“Stakeholders” refer to the groups of people that play different roles in a space.

For example, in the “healthcare” space in the US, the primary stakeholders can be defined as “patients,” “doctors/nurses”, and “insurance companies.” There is no single right answer.

In the “recorded music” space, the primary stakeholders can be defined as “artists,” “fans,” and “recording labels.”

For a company like Yelp, the primary stakeholders can be defined as “review writers,” “review readers,” and “businesses/business owners.”

Each population will likely have its unique set of problems that a product can address. For example, in the music space, artists will have different problems than music fans. Identifying stakeholders allows you to choose a population and narrow the problem space that your yet-to-be-defined product will address.

Sometimes, upon ideating product ideas to solve a problem for a particular stakeholder, you’ll discover that you must involve another stakeholder. For example, let’s say for Yelp, you’ve selected “review readers” as your target stakeholder and decided to address the problem of “I can’t find the best restaurant for the best dish X.” Even though the stakeholder you’ve selected to target is “review readers,” the product solution must have the participation of “review writers,” another stakeholder, to address the problem. “Review writers” must write dish specific reviews for “review readers” to read.

Segmentation of Stakeholders

Segmenting a single stakeholder population can further narrow the problem space. For example, the “music fan” stakeholder can be subdivided into young adults who, on average, may have little disposable income, and older professionals who may have more disposable income. A free internet radio product that has commercials fits young adults and a subscription product that requires users to pay to have commercial-free listening fits older professionals.

Meaningful segmentation separates user populations by qualities that drive differences in a product. It can be difficult to foresee whether a quality used to segment users ultimately drives differences in a product; segmentation often requires iterative revisions. You usually have to complete the product ideation step to more conclusively determine whether your segmentation is meaningful. Often, ideation of product ideas to address user problems can result in discovering new qualities by which to segment the user population. In a 30 minute window, you

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probably won't have time to iteratively revise your segmentation; you'll just have to give it your best shot.

Segmentation dimensions include but are not limited to:

User goals

Consciously/deliberately pursued goals. These are goals that people are consciously aware of and actively pursue by taking deliberate steps. These goals often require the use of the user's cognitive/planning part of the brain.

At work, someone needs to achieve 10% increase in revenue.

In the vacationing space, someone wants to plan an affordable yearly family vacation. Someone else wants to plan an extravagant 20th wedding anniversary vacation getaway.

In the gardening space, someone wants to learn how to maintain his own lawn. Someone else wants to be more ambitious and wants to design his own botanical garden. Someone else wants to hire gardeners to take care of his lawn.

On Instagram, someone wants to make money. Someone else wants to express himself.

Less consciously/less deliberately pursued goals. There are goals that people have don't frequently articulate explicitly and don't take deliberate steps to achieve them. People more frequently react to circumstances. These goals often serve the pleasure/displeasure or attraction/aversion centers of people's primitive brains.

In the entertainment space, someone's goal might be to maximize the interestingness of how he spends a set period of time. However, when he's surfing his cable channels for something interesting, he's not consciously thinking, "My goal is to maximize the interestingness of how I spend this time before I go to bed."

Someone else's goal might be prolong the duration of time he spend being entertained. He might be having fun with friends bar hopping on a night out. He wants to go to the next bar. His goal may be to extend the fun, but he's not consciously thinking, "I'm having a good time and my current goal is to prolong the fun."

Top / middle / bottom marketing funnel user goals in the realm of ads. Sometimes, conscious and unconscious goals can be identified in the context of the marketing funnel. For example, *bottom of funnel* user goal is: "I want to buy Nike running shoes model X." A *middle of funnel* user goal is: "I want to see what running shoes options there are." A top of the funnel user goal, which is unconscious is: "I want to know what's new in running shoes." *Top of funnel* goals are: "Browsing." *Middle* goals are: "exploring options." *Bottom* goals are: "I want to buy"; the intent is strong.

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Possession of extrinsic resources

- *Money*. Wealthy adults vs. less wealthy young adults.
- *Time*. Those who have more time than others.
- *Information*. Those who have access to real-time stock market data vs. those who don't.
- *Workers*. Those who mow their own lawn vs. those who have someone else do it.
- *Human network*. Those who have 5,000 LinkedIn connections vs. those who don't have a LinkedIn account.

Access to extrinsic resources/Circumstance

Scarcity/abundance/ease of getting/stability/availability of:

- *Education*
- *Internet* — high or low speed
- *Electricity*
- *Computers*
- *Water*
- *Other people*

Possession of intrinsic resources

- *Skills*. Skills to craft a marketing campaign. Speak German and English.
- *Experience*. Experience landing a plane in gusty winds.
- *Knowledge*. Knowledge about the after hours company bonding practices in Japan.

Urgency

A patient with a broken leg needs to see a doctor more urgently than one with a scraped leg. Someone who's moving to a new apartment might need to sell off his furniture more urgently than someone who's not moving.

Single vs. multiple users

Does a single human make decision to buy furniture or does an entire family need to be involved in making a decision?
Does a single human play a game like Tetris? Or do multiple humans play a game like Monopoly?

Location

Urban vs. Suburban

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Domestic vs. International

Intensity of Usage

High email volume users vs. low
Dimensions can be subdivided into different gradations.

Segmentation of Humans by Segmenting Objects of Interest

Objects of interest are non-human objects such as “classified listing” or “news” that humans interact with.

For example, on Craigslist, one object is the listing. Listings can be segmented into jobs, apartments, cars, appliances, and other categories. These segments are helpful because the user journey that is attached to each category can be different. A different user journey means that the user will encounter different problems; therefore, the product will be different. Someone who buys a refrigerator will probably have to worry about transporting the purchased item with a truck. In contrast, someone who bought a pair of headphones doesn’t need a truck to transport the item.

Another example is news. News can be segmented into international, national, local, entertainment, sports, finance, technology and other categories. It can also be segmented by format — video, audio, and text. Video or text news can only be consumed by users who are not visually occupied; they can’t be driving while watching/reading news. Users can, however, listen to audio news while driving. Each format serves different sets of users. Different users have different user journeys and encounter different problems. Therefore, the product must be different.

Segmenting objects of interest can help you narrow down to a particular user with a particular user journey with particular problems.

Interdependency Between User Segments, Their Problems, and Product

The more granular the segmentation, the more vividly we can see the problems that people encounter along their way to achieve a goal.

For example, someone can have a goal of finding a doctor. The problem for these people is finding a “good doctor.” If we segment these people more vividly, then we can identify their problems more specifically. The more specific their problem, the more targeted our product can be.

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Let's segment the above population:
Is this person in a densely populated area where doctors are abundant or in a rural area where doctors are scarce?

Does this person have a rare chronic condition that has been diagnosed by one doctor and does this person want a second opinion from another specialist? Or was this person in good health but recently got a runny nose and now needs a primary care doctor to examine him?

With the above example, we can see that user segments, their problems, and possible solutions to those problems are all interdependent on each other.

Reality Check: What are some other reasons that segmenting is a good idea?
One reason is that most companies don't have the resources to build products to target all segments and achieve product market fit for all segments — even within a narrowly defined space. Usually, a company must target a segment so that it can concentrate its resources to achieve product market fit for that chosen segment.

Achieving product market fit typically requires multiple attempts by a group of people over a long period of time. Even after achieving product market fit, continued investment to refine the product and scale is required. Once the product achieves product market fit for a particular segment, then the company has the option to invest further to refine the product, or target the "next best" segment.

For example, Amazon did not start selling books, music, movies, clothes, electronics, and food all at once; it started with books. Amazon progressively invested to expand the portfolio of goods it sells.
Another reason is that a particular population has to perceive enough value to try a product and continue using it. A product that addresses multiple problems of the user may be more easily perceived as being valuable. More resources and time are necessary to build products that address the variety of problems that a segment encounters. The probability of achieving product market fit is higher if a company narrows its focus to a segment and spends its efforts serving users deeply rather than addressing multiple segments more shallowly.

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Identify Problems Human Users Encounter

Segmentation by the dimensions listed above can suggest problems that segments have. For example, in the "music — listen to recorded music" space for the stakeholder of "music fans," there may be two segments:

1. People whose goal is to listen to songs and artists that they already like.
2. People whose goal is to discover new songs and artists that they will like.

Each segment's goal can be transformed into a problem by adding "I have problems achieving the goal of …" in front of the goal.

1. *I have problems achieving the goal of* listening to songs that I already like.
2. *I have problems achieving the goal of* discovering new songs and artists that I will like.

Sometimes, at this point of the investigation, you'll have to prioritize and select a segment to focus on. At this point, you can use the tools discussed in the section "Prioritize user-problem pairs. Select a target pair" below.

In order to identify specific problems within the "problems of achieving the goal of X," you can use a tool called: "user journey." See the "User Journey" section.

Reality Check: The above two segments of "listen"/ "discover" above are likely the same people. Sometimes, people want to listen to songs they already like and the same people can, at other times, be in the mood to discover new music. Does that mean the segmentation is technically incorrect? Well, no.

The question to ask is whether this segmentation helps you narrow down the users you want to target with your product and inform the design of your product. Your ultimate goal is to create a product that is profitable. The question should **not** be whether the segmentation is technically correct or not.

Reality Check: Some say that segmentation must be MECE, mutually exclusive and completely exhaustive. MECE is a condition that segmentation can satisfy that can help you make easier prioritization decisions downstream because your segmentation is cleaner. For example, you can segment the more wealthy and the less wealthy, which can be MECE. Or segment those who have easy 5G connection access and those who don't. That's MECE.

But how are you going to segment by the dimension of "user goals?" Are you going to create a complete list of goals of homeowners in the "gardening" space? A MECE list seems impossible. Does this mean that segmenting by goals is incorrect because the MECE condition cannot be applied? Well, no.

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Segmenting populations by their goals can be helpful in narrowing down to a population you want to target for your product. This means that segmentation that is not perfectly MECE can still help you build a profitable product. Non-MECE segmentation can still be useful.

Consider the following two segments in the “grocery shopping” space.

1. People who are affluent, lack time, and are willing to spend money to save time. Their goal is to reduce time it takes to “shop for groceries.”
2. People who are less affluent, willing to spend time to find items on discount promotions. Their goal is to get the most out of each dollar spent on groceries.

The segmentation is not MECE because the segment of “affluent, lack time, UNwilling to spend money to save time” is missing from the set. But the segments help you narrow down the population you may choose to target for your product.

Pitfall: Segmentation by age can be more or less useful depending on context. In the US, segmenting those who are 21+ years old and those younger than 21 can be useful in the alcoholic beverage space. (The segmentation is perfectly MECE.) Or the distinction between those 18+ or younger than 18 can be useful in making a product that serves the voting population. Perhaps a segment of people who are not 18 now but will be 18+ by the time of the election is another age segment that is worth distinguishing because they have particular user journeys and problems.

But imagine segmenting by age in 1 year segments, from age 1 to 100. It’s MECE, but what use is it in the space that you are investigating? Perfectly MECE segmentation can be misapplied to a context and may not be useful in moving your analysis forward.

Age can indicate wealth. Older people may, on average, have more savings than younger people, because they’ve had more time to save or are further in their careers. In this context, it may be better to segment by wealth. Sometimes, you’ll have to use age as a very rough proxy for the measurement of wealth.

Age can indicate the “family upbringing stage” of a population that wants to raise a family. You may have single people who are looking for partners. You may have couples who are still childless, or couples who have one child, or couples that have multiple children. You can also have empty nesters whose children have left home. You can have people who have grandchildren. In this context, it may be better to segment by the above listed qualities instead of age.

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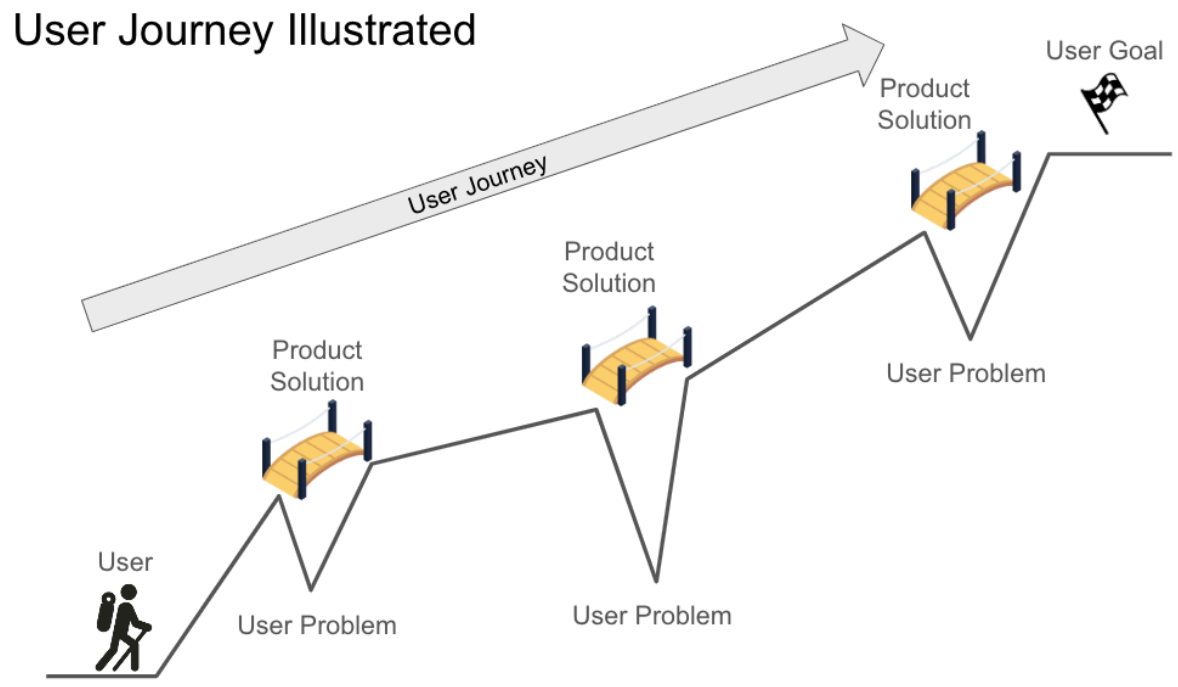
User Journey



As the **user** hikes up the mountain towards the **user goal**, s/he encounters **user problems** represented here by gullies along the path. **Product solutions** act like bridges that ease the user's hike.

Another way to represent the user journey looks like this, with the numbers representing steps.

A nebulous problem definition, e.g. "I have problems achieving the goal of reducing time it takes for me to do grocery shopping," can be concretized into specific problems by using a tool called "user journey."

A particular segment of users will encounter a particular set of problems while attempting to achieve a specific goal. This step by step pathway from "start" to "finish" is called "user journey." The user achieves his goal at the "finish." User journey is a helpful tool for identifying specific problems that user encounter along their way to achieve their goal.

Let's walk through an example of a user journey for a Yelp user. Yelp is a mature product so many of the potential user problems have been already addressed. But this example illustrates how to use the user journey as a tool for identifying user problems.

User Goal v1: Find a local affordable Italian restaurant where my friends and I can enjoy food/drink/atmosphere on a night out.

- **Start**: Friends and I set a date for a 6-couple dinner.
- **Step 1**: I submit a search for affordable local Italian restaurants.
- **Step 2**: I view the search results list and select a restaurant based on their star-rating and comments about the food/drink/atmosphere.
- **Finish**: I select a restaurant.

Now that we have the user journey, we can identify potential problems at each step.

- **Step 1-Problem 1**: I can't filter by a target geography.
- **Step 1-Problem 2**: I can't filter by the category of "Italian restaurants."
- **Step 1-Problem 3**: I can't filter by price range of restaurants.

The above problems have already been addressed by Yelp. Yelp accepts inputs of geography and restaurant categories; and has checkbox price filters ranging from $ to $$$$.

- **Step 2-Problem 1**: I can't see a summary review that allows me to shortlist restaurants.
- **Step 2-Problem 2**: I can't see commentary of people who have eaten there.

The above problems have already been addressed by Yelp. Yelp has comments from reviewers and a "check-in" system that better ensures the reviewer has been to the restaurant.
But how about the following problems?

- **Step 2-Problem 3**: I can't see easily see reviews about the quality of food.
- **Step 2-Problem 4**: I can't see easily see reviews about the quality of drink.
- **Step 2-Problem 5**: I can't see easily see reviews about the quality of atmosphere.

User Journey — Serial Extensions

We can move the "finish" point of the user journey downstream by changing our original goal, **Goal v1**:
Find a local affordable Italian restaurant where my friends and I can enjoy food/drink/atmosphere on a night out.

Let's update the original goal to **Goal v2**:
Find and reserve a table at a local affordable Italian restaurant where my friends and I can enjoy food/drink/atmosphere on a night out.

Now, we've extended the user journey from identifying a restaurant to reserving a table at a restaurant. We can append **Step 3** to the user journey.

Step 3: Reserve a table at the restaurant.

What are the problems with **Step 3**?

- **Step 3-Problem 1**: I don't know how to contact the restaurant to make a reservation.
  Yelp has addressed the above problem by displaying business phone numbers.
  - **Step 3-Problem 1.1**: I can only call within the restaurant's business hours.
  - **Step 3-Problem 1.2**: I don't have much time but I'm often put on hold for many minutes before I can talk to a reservationist.
- **Step 3-Problem 2**: It takes time to find a restaurant with the required number of seats available at the set date time of the dinner.
  Yelp addressed the problem of reservations by building an online reservation system.

We can move the "finish" point of the user journey even further downstream by including the step of traveling to the selected restaurant.

Let's change the goal to **Goal v3**:
Find, reserve a table, and travel to a local affordable Italian restaurant where my friends and I can enjoy food/drink/atmosphere on a night out.

Step 4: Travel to the restaurant on time at the set date and time.

- **Step 4-Problem 1**: I don't know if I should walk, take public transit, or take a car because I don't know where it is.
  Yelp addresses the above problem by displaying the address of the business as well as its location on a map.

- **Step 4-Problem 1.1**: If I take a car, I don't know how easy it will be to park or how much it will cost.

We thus far changed the "finish" point of the user journey by changing our goal. We can also move the "start" point of the user journey upstream by changing the initial conditions of the goal.

We previously assumed that "Italian restaurant" was already decided. But what if the dinner attendees hadn't decided on the cuisine yet and I had to find an interesting cuisine?

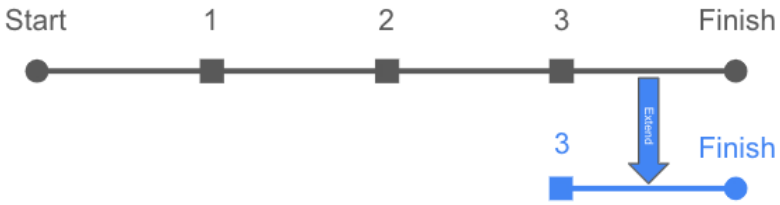
Maybe there should be a step prior to Step 1; let's call it **Step 0**.

Step 0: Find an interesting cuisine.

Step 0-Problem 1: I can't see a list of interesting cuisines that I can pick from.
Yelp has addressed the above problem by allowing users to browse through a list of cuisines.

User Journey — Parallel Extensions

The prior section discussed how the scope of the user journey can be extended downstream or upstream. The user journey can also be moved laterally by changing a prior goal of dining at the restaurant to ordering delivery.



Goal v4:
Find a local affordable Italian restaurant and order delivery from so that my friends and I can enjoy the restaurant food at the comfort of my home.

So now, **Step 3** is not "Reserve a table…" but "Order food to be delivered..."

- **Step 3-Problem 1**: Not all restaurants deliver their food.
- **Step 3-Problem 2**: For a restaurant that does deliver, I can't view the menu and prices.

- **Step 3-Problem 3**: Ordering over the phone is arduous. I have to say my credit card number of the phone. There are many misunderstandings.

I can also move **Step 1** laterally by changing my **Goal v1** to a new goal, **Goal v5**:
Find a local affordable restaurant where my friends and I can enjoy food/drink/atmosphere on a night out independent of cuisine.

Perhaps priority should now be given to the criteria of accommodating a party of 6 couples or 12 people.

Step 1 was: I submit a search for affordable local Italian restaurants.

But we update **Step 1** to: I submit a search for affordable local restaurants that can accommodate relatively large parties and has good food/drink/atmosphere.

Overlapping User Journeys of Two Segments

It's worth noting that two distinct segments may have overlapping user journeys. Take the Yelp example above where there's a segment whose goal is to reserve a table and another segment whose goal is to order delivery. The user journey prior to reserving or ordering delivery is a common leg in the user journey between the two segments.

Let's discuss another example. Imagine two segments in the used furniture buying space:

1. People who know what couch they want to buy; the couch was on an episode of Seinfeld.
2. People who want a couch but don't know exactly what type and want to browse what's listed in the marketplace, compare prices, and then decide what to buy.

The problems that each segment encounters along their user journeys in searching for the "right couch to buy" are different. However, the problems that they encounter along their user journey after they've found the "right couch" are similar; both segments need to verify the couch's condition and ship the couch from the seller to themselves. Even though the two segments started with a different goal, parts of their user journeys overlap with each other.

Prioritize user-problem pairs. Select a target pair.

Because a user segment has a particular user journey to achieve particular goals, the problems encountered along the user journey are intimately tied to the user segment.

When prioritizing, it's useful to pair user segments and their corresponding problems by concurrently accounting for three factors because it can reduce mistakes in prioritization:

1. Size of the user segment population
2. Frequency that the user segment encounters a problem
3. Depth of the pain of the problem

For example, in the "music" space, the population size of users who listen to recorded music is very large. Deciding to target this population for a product by the single factor of population size may be suboptimal because the depth of pain that this segment experiences might be shallow.

Solutions such as Spotify or Pandora address the problems of this user segment already and reduce the depth of this segment's pain point. Unless your company possesses a proprietary advantage that helps your product serve "recorded music listeners" better than Spotify or Pandora can do, then this very large population might not be an attractive target segment.

Often, you can have two user-problem pairs whose attractiveness is ambiguous because in the dimension of size, one user-problem pair clearly wins, but in the dimension of depth of the pain, it clearly loses. For example, let's say a team has the user centric goal of "make it easier to find a doctor." The size of the population that is looking for a primary care physician is larger than one that is searching for a specialist doctor, say an oncologist. But the depth of the pain in finding the "right" oncologist might be deeper because finding the right doctor or not can make the difference between life and death. So which user-problem pair is more worthy of a product's attention? It's hard to tell.

Reality Check: Sometimes, because of the natural sequence of product build out, with its foundational features coming first, the product serves a less attractive segment before its most attractive segment. This means that sometimes, the segment that is the clear winner across three segments is not the first segment to be served because of the nature of the solution and the logical sequence of its build out.

Reality Check: Sometimes, the most attractive segment cannot be served because the cost of building any solution for that segment is too high. What if a solution for a particular took years to build or was too risky given the current state of technology? A company may choose to not pursue the most attractive segment and select another segment that could potentially be served.

True prioritization must account for not only the three dimensions above but also the cost of building out the solution and the logical build out sequence of the solution.

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Define goal for solution. Identify solutions that address problem.

In the prior step, you selected a target user-problem pair. The problem that the segment faces may have multiple sub-problems that must be addressed for the user to achieve his goal.

A user-problem pair can face a problems such as:

- I have problems achieving the goal of listening to songs that I already like.
- I have problems achieving the goal of discovering new songs and artists that I will like.

Each of the above two user-problem pairs can have a multitude of sub-problems along each's user journey. To demonstrate your skill of ideating multiple solutions to a target problem within a time constraint of 30 minutes, you'll have to develop the skill of choosing a problem at the "right" level of granularity.

If investigating the sub-problems along a user segment's user journey reveals multiple sub-problems that are worthy of being a target for a product, you'll have to choose which sub-problem to target.

Let's walk through an example for Yelp users whose goal is to order delivery food. Let's pretend that Yelp has not built out delivery features yet.

The problem statement is:
I have problems achieving the goal of ordering delivery from a restaurant that I have found on Yelp.

Define Goal

Now that you have the problem statement, define a product performance goal, a goal that can be quantified as metrics. The reason this product performance goal is valuable to define is that it can give guidance to what solutions are preferable to others in steps that follow.

Some possible product performance goals include:

1. **Goal 1**: Maximize the count of delivery orders completed.
2. **Goal 2**: Maximize the dollar value of delivery orders completed.

The above two goals are similar but different enough to potentially impact downstream decisions about the product or peripheral product strategy.

Goal 1 may be more appropriate when a company is just starting its delivery service, needs growth, and must sign up restaurants to accept delivery orders. The company must kickstart an

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ecosystem and must make decisions about which restaurants it should target to serve with its delivery service.

From the product perspective, focusing on the metric of count of delivery orders can narrow the product team's attention on easing the restaurant sign up process or the online ordering process instead of building features that optimize the dollar value of orders.

Goal 2 may be more appropriate when the product satisfies the primary needs of restaurants and delivery food patrons, and the focus attention is to refine the product to maximize revenue. The sample goals can be more elaborate to account for dimensions of quality.

For example, **Goal 1** can be modified to:
Maximize the count of delivery orders completed while keeping restaurant retention, delivery order patron retention, and delivery people retention.

The retention constraints prevent the company from adopting a strategy that is only incentivized to get new delivery order patrons to try the service once and abandon it because the quality of the food, the quality of the delivery was not satisfactory. So the retention constraint is a guardrail metric that maintains the quality of all stakeholder's experience.

Identify Solutions

Let's use the Step 3 sub-problems that we discussed above during our discussion of user journey:

- **Step 3-Problem 1**: Not all restaurants deliver their food.
- **Step 3-Problem 2**: For a restaurant that does deliver, I can't view the menu and prices.
- **Step 3-Problem 3**: Ordering over the phone is arduous. I have to say my credit card number of the phone. There are many misunderstandings.

The above set of sub-problems actually have to be addressed concurrently, to some degree, for a user to achieve the goal of ordering delivery from Yelp.

The solution will have the following elements:

1. Support of restaurants enabling receipt of orders, and matching orders to third party delivery people.
2. Support of restaurants uploading their menu and prices. Support of restaurant patrons the ability to view menu and prices.
3. Support of restaurant patrons the ability to select menu items and pay for the food and delivery.

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The above 3 bullet point solutions roughly map to the 3 sub-problems for **Step 3** of the user journey. Imagining solutions for different problems gets easier if you study a variety of products in the same manner we have studied Yelp.

What's worth noting above is that thinking through a solution that targets the "restaurant patron," revealed that there are two critical stakeholders that must also participate in an ecosystem to support the solution for restaurant patrons. You must have products that allows restaurants and delivery people participate in the ecosystem.

Pitfall: Ecosystem plays that require the concurrent participation of multiple stakeholders requires a compelling value proposition for each stakeholder to participate.

For the above example of Yelp delivery food, you need incentives for delivery food patron, restaurants, and delivery people to participate. The delivery food patron must find the quality of the service and the delivery fees acceptable to use Yelp delivery. Restaurants that have excess cooking capacity may want to support the delivery food channel to maximize the utilization of its resources. Delivery people must be paid well enough in comparison to all the other forms of employment they can have in order for them to do the delivery work.

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Prioritize solutions. Select a target solution.

Upon formulating possible solutions, it's usually a good time to check that these solutions align with the original product performance goal defined for the solution.
If all solutions align to the product performance goal, then you must prioritize solutions by assessing which solution maximizes the metric by creating the greatest value for the greatest population size, and the cost of implementing the solution.

Value Creation — Performance Metric

To estimate the solution's impact on the metric, you may consider reviewing the following three factors, because these factors will likely drive your product performance metric.

1. Size of the user segment population.
   Segment population size can be queried directly, or by proxy criteria, or via a survey with the sufficient sampling size.
2. Frequency that the user segment encounters a problem.
   Frequency can be queried sometimes, but most of the time only an estimate with reasonable assumptions is the only feasible method of estimation.
3. Depth of the pain of the problem.
   The degree to which the solution mitigates the pain point can sometimes be quantified, but often, it is not quantifiable and can only be imagined. This can be a source of debate within a real product team.

Cost of Implementation and Maintenance

The cost of implementation and maintenance not only includes the engineering resources expended to implement/maintain but all the peripheral human resources necessary to support the users' use of the product including customer service agents, sales people, and operations support.

Sometimes, in an already established company, only an incremental investment need be made to build a "new" solution. This should be explicitly cited as a reason for estimating the cost of a solution to be lower than ones that need zero to 1 build out.

ROI Method

ROI stands for return on investment. Return can be considered the value creation side. The investment can be considered the cost. Each solution's ROI can be roughly assessed. Each solution may have a different timeframe to achieve the expected return or complete the implementation. Assessing ROI for each solution can eliminate solutions that are obvious "underperformers" and shortlist the viable ones.

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Select the solution that has the “best” ROI within the “best” timeframe.

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