

What is Design?



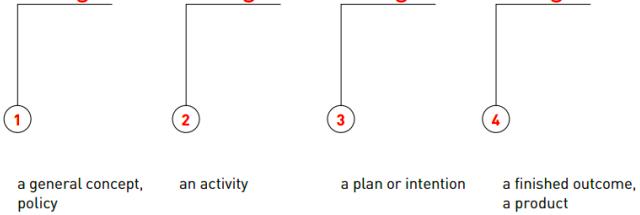
And why does it matter?

Design is not just the look and feel of an item. It is not just the color palette and fonts on a website.

Design is everywhere. It focuses first and foremost on human behavior and their experience with the design, the product, the process.

The single word 'design' encompasses a LOT, and that's why the search for a single definition has lead to many lengthy debates. But **Good** design is based on tried and true, demonstrated design principles.

design is to **design** the **design** of a **design**.



Thank you to Sherif Amin for the illustration:
<http://sherif-amin.com/what-is-design/>

Graphic Design

Graphic Design: visual communication process using one or more of typography, photography and illustration.

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Interaction Design

Interaction Design: Designing for the entire interconnected system: the device, the interface, the context, the environment, and the people. Interaction designers strive to create meaningful relationships between people and the products and services that they use, from computers, to mobile devices, to appliances, and beyond. Granted this STILL is not a concrete, easy to apply definition of design ... that's where principles come in.

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"My heart belongs to the details. I actually always found them to be more important than the big picture. Nothing works without details. They are everything, the baseline of quality"

- Dieter Rams



Dieter Rams: "Good design transcends aesthetic purpose." (form follows function)

Born 1932 in Wiesbaden, Germany. In 1955, was an architect and an interior designer with the German appliances manufacturer, Braun. He became the chief design officer in 1961 until he retired in 1995. A trained architect and carpenter, Rams made Braun a household name in the 1950s. He designed electronic gadgets that were remarkable in their austere aesthetic and user friendliness. Rams was influenced by the Bauhaus movement, which brought art and industry together and suggested good design was about achieving both beauty and utility. Rams introduced the idea of sustainable development and of obsolescence being a crime in design in the 1970s. Accordingly, he asked himself the question: "Is my design good design?" The answer he formed became the basis for his celebrated ten principles. **His 10 Principles of "Good Design"** are not the only way to look at design, but they work **VERY** well for interaction design.

Dieter Rams' 10 Principles for Good Design

1. Is innovative
2. Makes a product useful
3. Is aesthetic
4. Makes a product understandable
5. Is unobtrusive

1. The possibilities for progression are not, by any means, exhausted. Technological development is always offering new opportunities for original designs. But imaginative design always develops in tandem with improving technology, and can never be an end in itself.

2. A product is bought to be used. It has to satisfy not only functional, but also psychological and aesthetic criteria. Good design emphasizes the usefulness of a product whilst disregarding anything that could detract from it.

3. The aesthetic quality of a product is integral to its usefulness because products are used every day and have an effect on people and their well-being. Only well-executed objects can be beautiful.

4. Makes a product understandable – It clarifies the product's structure. Better still, it can make the product clearly express its function by making use of the user's intuition. At best, it is self-explanatory.

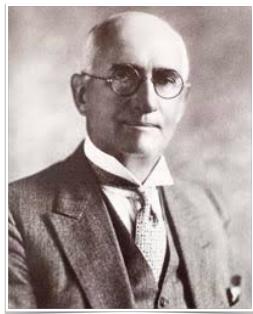
5. Products fulfilling a purpose are like tools. They are neither decorative objects nor works of art. Their design should therefore be both neutral and restrained, to leave room for the user's self-expression.

Dieter Rams' 10 Principles for Good Design

6. Is honest
7. Is long-lasting
8. Is thorough down to the last detail
9. Is environmentally friendly
10. Involves as little design as possible

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6. It does not make a product appear more innovative, powerful or valuable than it really is. It does not attempt to manipulate the consumer with promises that cannot be kept.
7. It avoids being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years – even in today's throwaway society.
8. Nothing must be arbitrary or left to chance. Care and accuracy in the design process show respect towards the consumer.
9. Design makes an important contribution to the preservation of the environment. It conserves resources and minimizes physical and visual pollution throughout the lifecycle of the product.
10. Less, but better – because it concentrates on the essential aspects, and the products are not burdened with non-essentials. Back to purity, back to simplicity.



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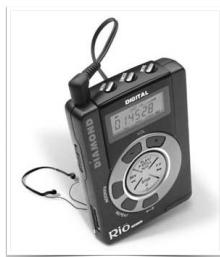
- Edward Hines, a printer by trade, was a member of the Wayne County Road Commission (of Wayne County, Michigan), from 1906 to 1938. In 1909/1911, he built the first paved road and was then inspired to add lines to roads by a leaking milk truck on a dusty road.
- Received a posthumous design award (Paul Mijksenaars) for his design of bright centerlines on streets and motorways.

- https://en.wikipedia.org/wiki/Road_surface_marking
- <https://vimeo.com/paulmijksenaaraward> (photo source)
- https://i.vimeocdn.com/video/450643886_780x439.jpg (photo URL)



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This painted line optimized roads' functionality for two way traffic. Considered the single most importation device in the history of auto transportation.



- Innovative
- Makes a product useful
- Aesthetic
- Makes a product understandable
- Unobtrusive
- Honest
- Long-lasting
- Thorough down to the last detail
- Environmentally Friendly
- Little Design as Possible

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First Mass-Produced Portable Digital Music Player: "Diamond Multimedia Rio PMP300," May 1998,

First iPod, October 23, 2001

Steal like an artist: a book by Austin Kleon, based on a Picasso quote: "Good artists copy, great artists steal."

Originality does not necessarily mean it is a better design. Originality can be over-rated — and that statement does NOT contradict Ram's first rule of Good Design — Innovation. You want to be innovative, **when there is a value to it**, not just to be new & original.



Steal like an artist.

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Dietrich Rams, Braun Transistor Radio - 1958

First iPod: October 23, 2001

(Transistor radios use circuits for amplification, rather than vacuum tubes. This technology made radios portable. The transistor was invented in 1947 and the first transistor radio was created in 1954 by Texas Instruments and Industrial Development Engineering Associates.)



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Braun ET66 calculator from 1987 by Dieter Rams (re-released in 2014).

First iPhone calculator app by Apple.

What is Design? Problem Solving



Back to the question: What is Design? Design is Problem Solving.

Why does it matter?

Why Does Design Matter?

1. Design Sells

- Businesses that add value through design see a greater impact on business performance
 - Rapidly growing businesses are nearly six times as likely as static ones to see design as integral. Shares in design-led businesses have outperformed the FTSE (Financial Times Stock Exchange) 100 by more than 200% from 1995-2005.
 - For every £100 a design-alert business spends on design, return increases by £225.

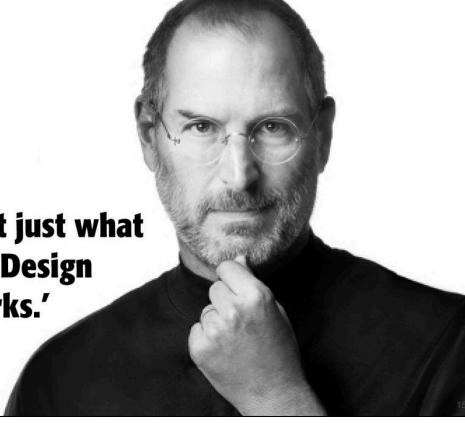
2. Design Shows You Care

- 2004 study to measure the impact design has on trust and mistrust of health websites and the impact of the quality of the content.
 - Design was the number one factor for rejecting or mistrusting a website: 94% were design related; only 6% were content related. "Visual appeal, plus design issues relevant to site navigation appeared to exert a strong influence on people's first impressions of the site."

3. First Impressions

- Visual appeal can be assessed within 50 milliseconds, i.e., a website or app has about 50 ms to make a good first impression.

1. [The Value of Design; Factfinder report by Design Council \(2007\)](#)
2. [Trust and Mistrust of Online Health Sites \(2004 - Conference on Human Factors paper\)](#)
3. [Attention web designers: You have 50 milliseconds to make a good first impression!](#)



'Design is not just what it looks like. Design is how it works.'

Steve Jobs



What it means to be a UX/Ix/UI/Digital Product Designer is constantly evolving.

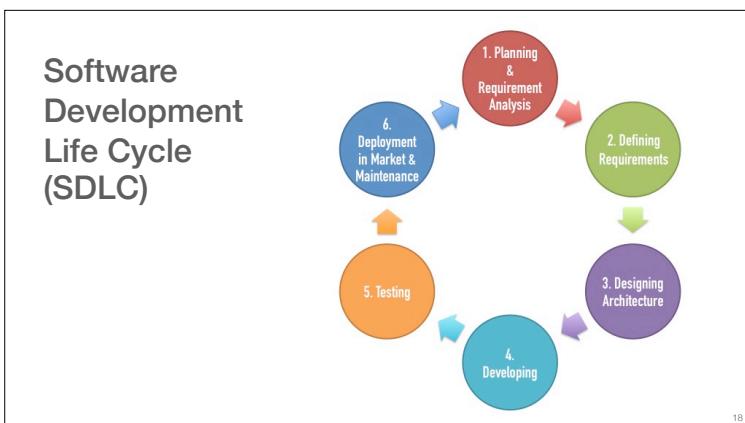


From David Kelley's Creative Confidence video.

Worried you many not be "The Creative Type" ? Is it Fear of judgement - there is no judgement here! We're learning here!!!

David Kelley talked about "Guided Mastery" from Psychologist Bandura's self-efficacy practice

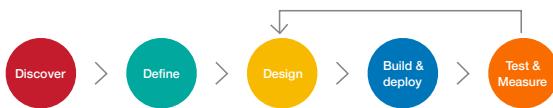
A PROCESS does not limit creativity, it opens opportunities to be creative and innovative.



Mother of all Process Models: **Software (System) Development Life Cycle** (also called as Software Development Process)

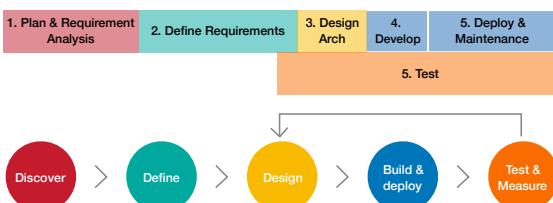
- SDLC is a framework defining tasks performed at each step in the software development process.
- First iteration, 1995
- ISO/IEC 12207 is an international standard for software life-cycle processes. It aims to be the standard that defines all the tasks required for developing and maintaining software.
- System Engineers (Tech Leads)
- There are many (slight) variations on the labeling of the steps in the cycle.
- Good, quick overview of SDLC: https://www.tutorialspoint.com/sdlc/sdlc_overview.htm

Typical UX Design Process



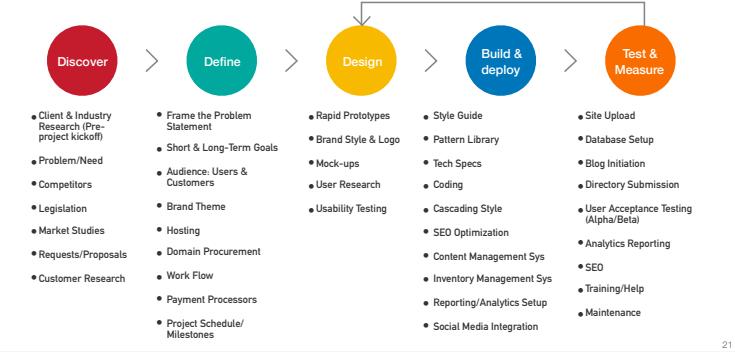
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UX Design vs. SDLC



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UX Design Process Deliverables



Sample list of deliverables. Not set-in-stone and not every item is required!

What is UI & UX?

us·er in·ter·face

/yoozər 'in(t)er,fäss/

noun COMPUTING

the means by which the user and a computer system interact, in particular the use of input devices and software.

us·er ex·pe·ri·ence

noun

the overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use.
"If a website degrades the user experience too much, people will simply stay away."

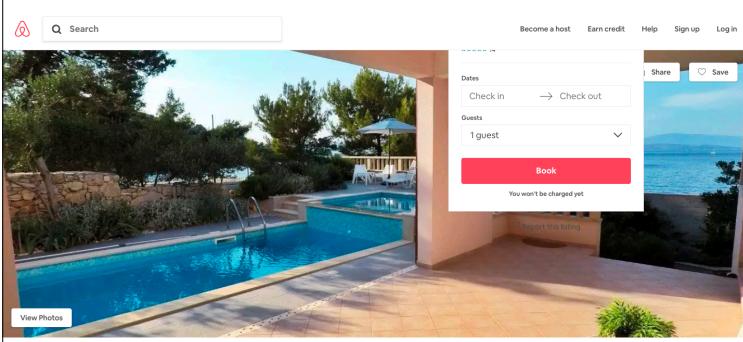
Dictionary:

UI: the means by which the user and a computer system interact, in particular the use of input devices and software.

(Your keyboard meets that definition.)

UX: the overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use. (Yes, that can be designed.)

What is meant by UI & UX?



Unlike UX designers who are concerned with the overall experience of a product, User Interface designers are focused on how the product is laid out. They are in charge of designing each screen (including VR) or page with which a user interacts and ensuring that the UI visually communicates the path that a UX designer has laid out. (The future will tell whether UI designers will be expected to understand audio interface design as well.)

Webpage: <https://www.airbnb.com/rooms/12317178>

User Experience

Design products with a meaningful and relevant experience for users while keeping the business needs, technology limitations, and resources availability in mind.

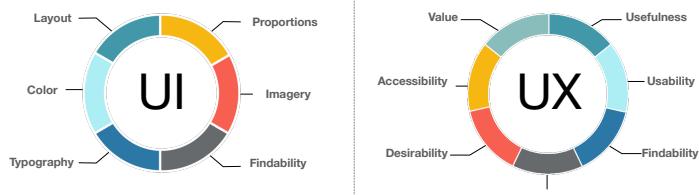


User Interface

Design all the screens a user interacts with and create the visual elements - and their interactive properties - that facilitate this movement.

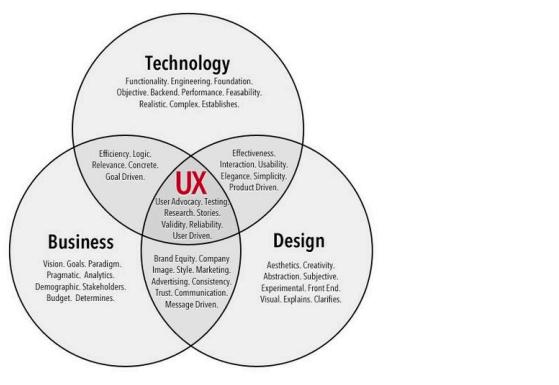
Both roles ultimately strive to provide a positive experience for the user, but UI is a subset of UX.

UI vs. UX



Not exclusive or conclusive lists!

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Venn diagram - a traditional explanation of the position of UX. It is the sweet spot between Design, Technology and Business.

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Our Design Challenge



Assignment: design from concept to prototype for Rhino and present as a case study in your portfolio



Rhino Splits is a "digital wallet," a.k.a., a mobile payment service, owned by two brilliant women. Users will be able to transfer money to other people using a mobile phone app or web interface.

Users will sign up and create an account by providing basic personal information and bank account information. Paying with a bank account or debit card is free, but credit cards have a 3% fee for each transaction.

Rhino Splits

At this time, payments will be strictly between individuals. Rhino Splits is not considering branching into payments to or from businesses.

Susan Culkin is the CEO

Hayley Landsberg is the CTO

UX Design Process Deliverables



- Client & Industry Research (Pre-project kickoff)
- Problem/Need
- Competitors
- Legislation
- Market Studies
- Requests/Proposals
- Customer Research

Project documentation is meant to be a communication tool. Not a record of history. Document just enough for everyone to complete the project and continue on for next phases and iterations.

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Project Kickoff

CLIENT

Client Name _____
Project Name _____
Primary Contact Name _____
Phone _____
Email _____
Billing Address _____

COMPANY | description of company

Any project starts with background questions. This worksheet guides the conversation to prepare a proposal and work estimate.

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Project Kickoff

CLIENT

Client Name _____

Project Name _____

Primary Contact Name _____

Phone _____

Email _____

Billing Address _____

COMPANY | description of company

OBJECTIVE | purpose and goals of project

TARGET AUDIENCE | users and customers

ATTITUDE | style and tone

Brand Bible Style Guide CSS

SCHEDULE | projected timeline, important dates, deadlines

BUDGET | client's estimate/expectation

ACCESS | URL, App name, log-in

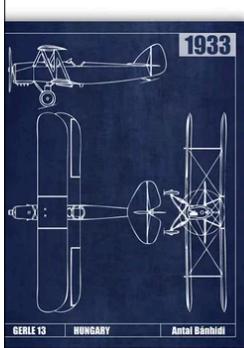
NOTES

Problem Solving



Design is Problem Solving. It's about making things better for people. What problem are we solving with Rhino Splits?

([Pill Mortar & Pestle, 3D Printed Porcelain by Bambú Studio in Alcoy, Spain](#))



What is the Problem to be Solved?

Properly framed challenge statements:

- drive toward ultimate impact,
- allow for a variety of solutions, and
- take into account constraints and context.

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Frame your Challenge: It's rare that you'll clearly frame your problem (i.e., design challenge) on the first try. Expect a number of revisions and lots of team debate to precisely how to hone the problem we're looking to solve.

This exercise organizes our thoughts and puts everyone on the same "runway." "Pick ONE runway to land your plane. Doesn't mean you can't take off again and change your destination. But you have to pick one runway first." (Paraphrased Quote from Sloane Scott of [Punching Nun Group](#))

The Goldilocks Problem

In this classic fairy tale, little girl named Goldilocks goes for a walk in the forest and comes upon a house. She sees no one in the yard, so she goes inside to look around. She finds porridge that is too hot, porridge that is too cold, and a chair that is too big, too small, and just right for her.

Clearly identifying and communicating the problem lays a strong foundation for a company, a project, an organization. If you can't explain the problem to your team, how will they know what needs to be done? If you don't know what you are doing? A problem statement that is too narrow won't offer enough room to explore creative solutions. And a broadly stated problem won't provide an idea where to start. It must be just right.

1. Start by taking a first stab at writing your design challenge in one short statement. Use a marker (preferably a "dry-erase") and write a short and easy to remember statement that conveys the problem you're solving. Use the space that you need most space but don't spend too much time on this. There are more steps for refining the statement!

Problem Statement:

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My worksheet based on IDEO's Design Thinking method.



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A quick test: see if you can come up with five possible solutions in just a few minutes. If so, you're likely on the right track.

The Goldilocks Problem

In this classic fairy tale a little girl named Goldilocks, goes for a walk in the forest and comes upon a house. No one is home so she goes through their food and property until she solves her comfort and hunger problem by finding the things that are just right for her.

Clearly identifying and communicating the problem lays a strong foundation for a company, a project, an organization. If you can't explain the problem to your team, customers, and stakeholders, how do they know what you are doing? A challenge statement that is too narrow won't offer enough room to explore creative solutions. And a broadly scoped statement won't provide an idea where to start. It must be just right.

1. Start by taking a first stab at writing your design challenge in one short statement.

Use a marker (preferably a Sharpie™) and write a short and easy to remember statement that conveys the problem you are solving. Use scrap paper if you need more space but don't spend too much time on this. There are more steps for refining the statement!

Problem Statement:

2. Now, take a stab at framing it as a design question.

Begin your question with "How Might We"....

How might we

3. Explain the "top of the mountain" for this company or project.

Think of the ultimate impact you're trying to have. How will you know you have achieved everything you can imagine and then "it's all down hill from here"?

4. Write down five possible solutions in 10 minutes (or less).

You're likely on the right track if you can come up with five solutions. If not, try "If you can't draw it, it can't be done," or work on personas to get some clarity and come back and restart this exercise.

1. _____
2. _____
3. _____
4. _____
5. _____

5. List the context you're working in and the primary constraints that you're facing.

Try not to think about money or time too much. Consider technology, resources, laws, market understanding, education, culture, etc.

- 6. Now rewrite a challenge statement with all this in mind.**
Make it short and sweet to clearly communicate the challenge.

- 7. Assess your challenge statement against these 3 criteria:**

1. Ultimate impact: _____

2. Allow for a variety of solutions: _____

3. Take into account constraints and context: _____

- 8. Do you need to rewrite that statement again or you are good to move on?**

Next Step

Who has this problem? How do they deal with it now?



Carousel

"This game has been designed to gather facts and opinions from the participants on different aspects of the issue at stake. It will help gain and share insight from all points of view, since everyone will have had the chance to contribute."

<http://gamestorming.com/caroussel/>

<http://gamestorming.com/caroussel/> (note the misspelling - 2 Ss in Caroussel)

Planning Research

What do we Know?

What do we Need to Know?

Carousel [for Problem Solving]

Object of Play

This game has been designed to gather facts and opinions from the participants on different aspects of the issue at stake. It will help gain and share insight from all points of view, since everyone will have had a chance to contribute.

Number of Players: Up to 50

Duration of Play: 15min to an hour depending on the amount of participants

How to Play

1. Prepare 5 up to 10 flip-charts where you address different aspects of the topic at hand. On each flip-chart you address a certain aspect of the issue by posing a powerful question about it, these questions should be impersonal and ask for facts and opinions. Focus on "what", "when" and "how" questions.
2. Spread the flip-charts through the entire room, making sure there is enough distance in between to allow group discussions between participants without disturbing the others too much.
3. Quickly introduce the topic at hand and go through the questions of each flip-chart, making sure everybody understands the questions correctly.
4. Ask participants to split into pairs, or groups up to 5 people if you have a bigger group. You should have one group per flip-chart/question.
5. Ask each group to answer the question by adding their ideas, facts and opinions on the flip-chart either with images, writing or post-it artifacts in a way that it is possible for others to interpret the data presented.
6. Give each group 2-3 minutes to add their information and rotate to the next flip-chart (clockwise or counterclockwise)
7. Repeat until each group has answered all the questions.
8. Give the entire group another 5-10min to review all generated content and move to the next step: prioritization and/or deeper research into some of the ideas generated.

Strategy

By limiting the time a group has to answer a question you will make them focus on the most important things.

The idea is not to gather all information per participant but to gather meaningful information as a group. This gathered information will form the basis for a prioritization and/or deeper research into some of the ideas and opinions.

AEIOU Research Plan

Answer the questions below to better understand what you need to accomplish in your research.

A

What **activities** do you need to understand or observe?

E

What **environments** will be important to visit your participants in?

I

What **interactions** between people, or object and person, do you need to understand or observe?

O

What **objects** need exploring?

U

What types of **users** will you need to speak with and observe?

Competitor Evaluation

competitor's name _____

location _____

website _____

twitter _____

other info _____

		helpful to achieving their objectives	harmful to achieving their objectives
internal origin attributes of the organization	STRENGTHS	WEAKNESSES	
	OPPORTUNITIES	THREATS	
external attributes of the environment	What good things make this a success? What specific things make this a competitor for your solution?	What could this competitor do to improve their product and make them even more of a competitor? (This could be the competitive difference for you.)	Anyone ready to take their place? What is beyond their immediate control that could hurt their progress?