

Summary for Design for Experience 2021 v1.1

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Creative Technology – M4: Art, Impact and Technology

According to syllabus and objectives.

Information taken from
lectures and articles.

Design often focuses on creating things that are functional, reliable, and usable.

Designing for Experience focuses on designing technologies that create meaningful and pleasurable experiences.

Lecture 1 Experiences & Design

Design

The process of creating or shaping tools or artifacts for direct human use.

Human centred, creative, conscious, and always a process.

Empathize → Define → Ideate → Prototype → Test → Deploy (iterative)

Experience

An experience is an episode, with a beginning and an end.

Sights and sounds, feelings and thoughts, motives and actions are all related to an experience.

Experiences are:

Holistic Next to functionality you consider feelings and motivations in regard to a design.

What can people do with the product?

How does the product allow this?

Why is the product used for this?

Subjective People's opinions and feelings affect how experiences are perceived.

Waiting in line is perceived shorter when there is distraction for example a tv, while objectively the time stays the same.

Situated An experience depends on the number of factors that come together at a particular place and time.

Dynamic The timing and order in which an experience unfolds changes the way it is perceived.

Designing for experience means considering emotions, needs and motivations over different points in time over the product, that comes second.

Although you cannot fully control an experience, you can orchestrate it.

Historical overview of experience design

Memex

Started as early as 1945, with *Vannevar Bush's* speculative design called the "Memex".

The first real design that thought about humans interacting with computers.

Similar to current age systems, included a keypad, touchscreen and scanner.



PC's

Later personal computers followed introduced by Xerox (remember ubiquitous computing?)

On these devices people started interacting with a computer through a user interface: a mouse.

The Xerox models were not commercially successful, few applications and difficult to use.

Books

"Designing for people" *How can we design everyday objects for human use?*

This book by Henry Dreyfuss teaches important concepts of experience design.

Quotes: *Focus on affordance over function, it should be clear how something is used.*

At the expense of forfeiting originality ... we try to make things obvious to operate.

Usability

For many years, usability was the main focus of designing before creating an experience.

Usability is very connected to the experience though.

Often, poor usability leads to a bad user experience, but not necessarily.

Nowadays it is increasingly difficult to make a difference in features or usability. The difference can be made in the experience it provides.

Benefits

1. Experiences create *satisfaction*.
Positive experiences can make us happy and satisfied.
2. Experiences *motivate*.
They can motivate and make using something worthwhile.
3. Experiences are *self-defining*.
They shape our perceptions and the way in which we interact with the world.

Lecture 2 Defining Experiences

First fase

The first fase of designing a user experience is *empathising* with your target group.

This highlights opportunities for the design of experiences by forming an understanding of:

- People's motivations and practices (why and how people do things)
- Breakdowns in current processes and workarounds that people implement.

Understanding

People are notoriously bad at predicting what they want and how they act in the world.

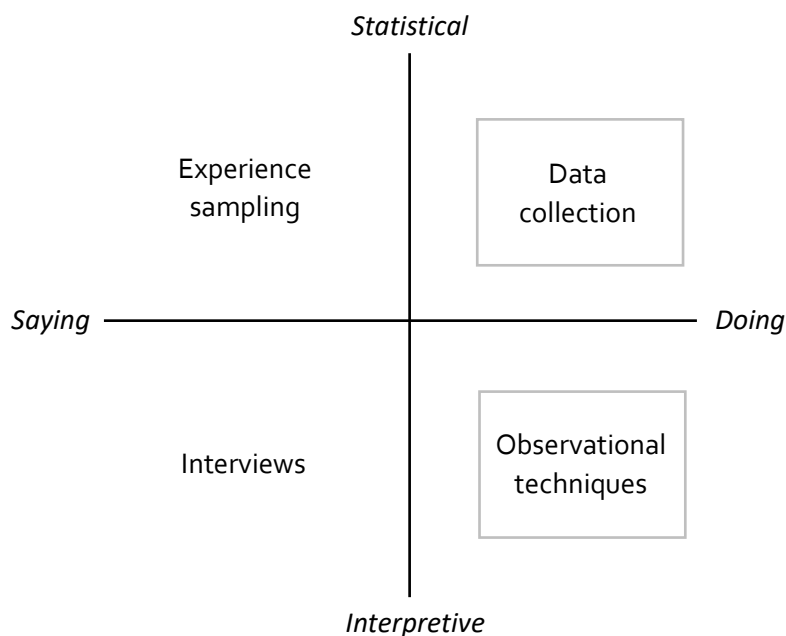
This is very difficult when designing.

If I'd asked people what they wanted, they would have said faster horses ~Henry Ford

Ways of understanding

There are infinite different ways of understanding people. We look at observational and self-reported techniques which are used to gather an understanding of the target group.

Figure 1




The methods you choose to use depend on what you want to study and analyse. Different projects and experience might require other methods than others.


Observational techniques


What do we want to observe?

- *Activities* What are the paths ways that most people take towards the things they want to achieve?
- *Environment* What describes the atmosphere, including individual and shared spaces?
- *Objects* What are the objects and devices people have in their environments?
- *Interactions* How do people use their objects?
- *Users* Who uses the object? Who is present in the room? What are their roles and relationships?

Doing methods

- **Artifact analysis**


How?	Document things that people identify as important to them as a way to cataloguing evidence of their lifestyle.
Why?	This method is useful for revealing people's activities, perceptions, and values as well as patterns among them.
- **Shadowing**


How?	Tag along with people to observe and understand their day-to-day routines, interactions, and context. <i>Legal stalking.</i>
Why?	This is a valuable way to reveal design opportunities and show how a product might affect or complement a user's behaviour.
- **Video observation**


How?	Give people wearable cameras and ask them to record particular activities. See this as a first-person GoPro user view.
Why?	Offers a naturalistic, visual in-situation perspective over the course of days. Offers the possibility of re-watching.

Data collection techniques

Doing method

- **Log data**

How?	Track and log data from people's use of things (e.g. frequency of phone or website checking)
Why?	Has potential to provide continuous and objective insight into actual behaviours.

Doing methods

The doing methods described above provide extremely rich data since it is mostly led by participants needs and interests.

But underlying motivations can continue to be unknown if not followed up with participants.

Just from observing we can see actions by users, but we have no idea what is going on inside their head.




Self-reporting techniques

If we focus more on the “Why”, the left side of figure 1 (experience sampling and interviews) we can gather a better understanding about the motivation which drive users.


Saying methods

- Five Why’s




How? Ask “Why?” questions in response to five consecutive answers.

Why? This technique is used to determine the underlying reasons for behaviours and attitudes.
- The Love & Break Up Letter




How? Ask people to share their thoughts on a product that they love (and if it went to other way round why they hate it now).

Why? Offers profound insights about what people value and expect from the objects in their daily lives.
- Card sorting




How? On separate cards, name possible features, functions, or design attributes. Ask people to organize the cards spatially in ways that make sense to them.

Why? This helps to expose people’s mental models of a device or system. Their organisation reveals expectations and priorities.
- Diary studies



How? Distribute a journal that is portable and easy to use and ask participant to write about a particular event (e.g. their feelings when encountering a particular product).

Why? People can conveniently express personal details about their daily life.
- Experience sampling



How? Give people a mobile device and ask them to record and evaluate the situation they are in.

Why? Useful way to discover how product and services get integrated into people routines.

Saying methods

The above-mentioned methods provide a lot of information which is difficult to gather otherwise.

- People can tell you what they are doing.
- People can tell you how they feel.
- People can tell you what their goals are, and their plans to reach those.

But people might overlook or forget their actions, feelings, and goals.

Triangulate

By using multiple methods and approaches from Figure 1 you gain a broad and deep understanding.

Lecture 3 Defining for Emotions

Experiences are composed of user actions, system actions and emotions but:

- What is the relation between human emotions and actions?
- How can systems (and) products evoke emotions?

Human nature

Emotions are part of our human nature.

Although we tend to correlate emotions only to big events in our lives, we are *always* in some emotional state. If you were to ignore the emotional side of an experience, product, or system you ignore the fact that it is used or will be used by people.

Emotion

The felt tendency *towards* anything intuitively *appraised* as good (beneficial) *or away from* anything intuitively *appraised* as bad (harmful) ~ Magda Arnold (1960)

From that definition follows that:

- Emotions derive from evaluating a situation.
- Emotions motivates and drive action.

Every emotion has a behavioural component that helps us survive (Darwin) or that (in our case) helps us to fulfil our concerns (Arnold).

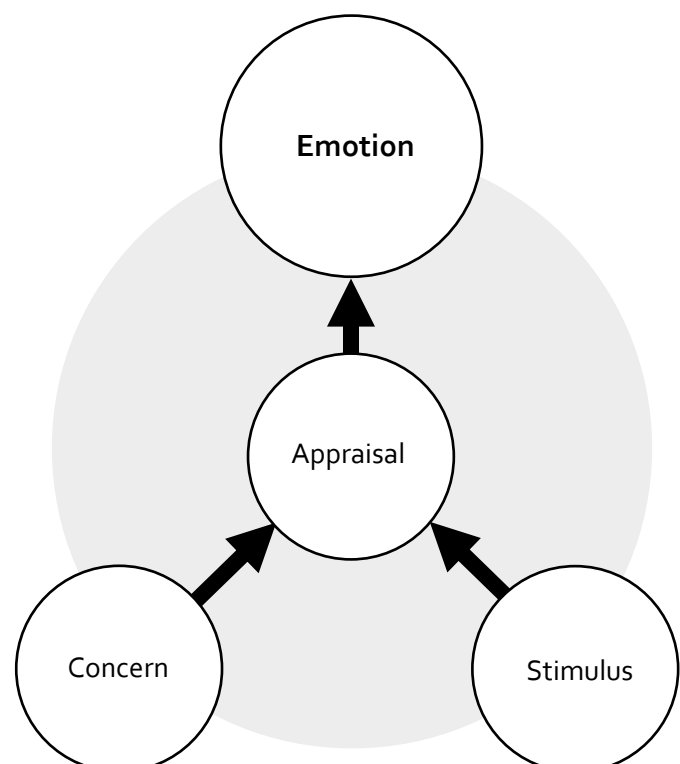
Emotions are the outcome of an appraisal: that is, a sense evaluation of the event's significance for the person's well-being.

Appraisal connects events to concerns: events only elicit emotions if they are appraised as relevant for one's concerns.

Variables:

Concern More or less stable preferences for for certain states of the world.

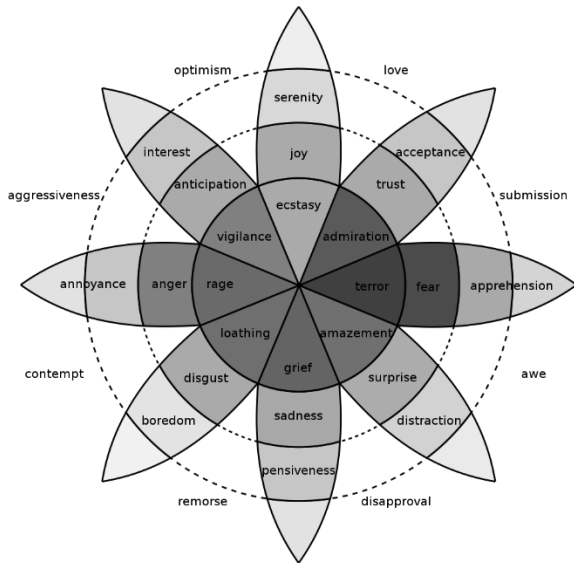
Stimulus Percieved changes in the environment.



Granularity

To practise emotional design, we need to understand the full spectrum of emotions.

Emotional granularity The ability to characterise one's emotional state with specificity

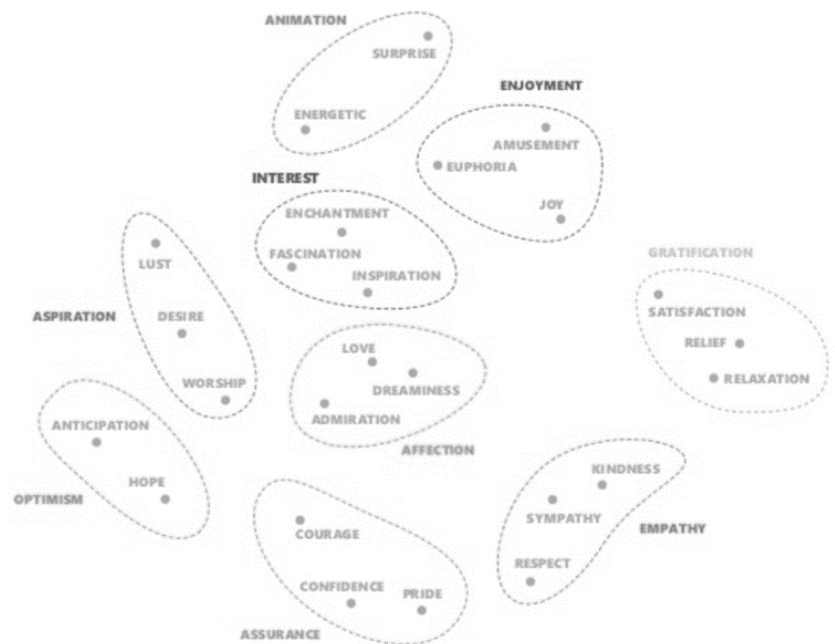


Try to describe emotions with discrete labels instead of referring to global feeling states (happy, sad, angry etc)

For this you can use Plutchik's wheel of emotions, pictured on the left, which includes many discrete emotion labels.

There are more helpful definitions, such as the Typology of Positive Emotions by Desmet (2012) which lists 9 main categories of positive emotions.

1. *Enjoyment*
2. *Interest*
3. *Assurance*
4. *Empathy*
5. *Gratification*
6. *Animation*
7. *Affection*
8. *Optimism*
9. *Aspiration*



When designing for emotions you can also make use of the *emotional granularity cards*. A card set with elaborate definitions and drawings for each emotion. They are easy to understand and could therefore also be used by end-user participating in the design process.

Negative emotions are used in many experiences to generate a feeling or emotion towards the product or service. (A movie might use danger or sad events to create suspense which the user in the end likes).

Many negative emotions are defined in the "Negative Emotion Topology" which has rich definition and real word examples on how a certain emotion can be used.

The Three Three's

Three levels of human concern:

1. Goals What we would like to achieve or see happen.
2. Standards What we expect things to do and people to behave.
3. Attitudes Dispositional likings for stimulations or ideas.

Three levels of stimulus:

1. Perceiving things Sensing, touching, smelling or tasting things
2. Using things Action-reaction episodes involved in using things
3. Consequences of using things Outcomes related to using or owning things

Three principles of emotion:

1. Emotions help us to protect and increase our well-being
2. Emotions express personal values
3. Emotions motivate

Lecture 4 Experience Design Evaluations Methods

"Evaluation is a process that critically examines a system. It involves collecting and analysing information about a system's characteristics, and outcomes. Its purpose is to make judgements about a system, to improve its effectiveness, and/or to inform decisions" ~ *M. Q. Patton*

Reason for evaluation experiences

- Measuring how well a design performs
Extend to which different parts of an experience contribute to the intended effect.
- Understanding why different aspects work
Normally subjective, involves asking people about their experiences.

Methods

Evaluating experiences as they take place

Takes place in context, shortly after or during an experience

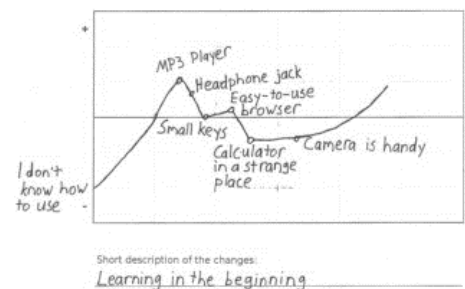
- Observations
 - Give people a prototype of your system and observe them while you let them experience the system naturally. Document actions and expressions.
 - Emotion recognition, use software to analyse emotions of recorded video (Affectiva, FaceReader). Provides real-time, granular assessment of a persons emotions.

- Data collection; tracks and log data from people's use of things. Provides a lot of rich information but be objective what to evaluate as you can gather lots of data.
- Physiological measurements
 - Physiological reactions are recorded with sensors on the user. Can provide richer data than traditional methods but can be hard to interpret and is invasive to the users.
- Self-reports
 - Users report their opinion, feelings and/or behaviors as they are doing something.
 - Experience Sampling, prompt users at intervals (random) to rate their feelings or comment of the system.
 - AttrackDiff survey, evaluates the attractiveness of a product. 21 contrasting word pairs (semantic differences). Validated thoroughly in research.

Evaluating experiences in retrospect

Takes place after an experience takes place

- In-vivo methods
 - Participants are given cameras and are asked to record their experiences
 - Supports reconstruction of events by allowing participant to review recordings
 - Can highlight valuable moments in a experience.
- UX curves
 - Participants sketch a curve and add comments and report how their experience has changed during the time of use.
 - The curve drawing is formed of an horizontal timeline and a vertical line that divides the positive and negative experiences.



Considerations

- Defining how you expect your system to work
 - Define a hypothesis (what do you expect your system to do?)
- Choosing an (or a combination of) evaluation method
 - Consider for benefits, drawbacks and if the method can answer your hypothesis.
- Carrying out your evaluation

Decide a duration.	Consider for how long you expect users to use your system.
Deciding who will do it.	The more users, the better but think about your resources to carry out the evaluation.
Deciding what to collect.	Keep in mind the data principles (only take / gather what you actually need). Define a clear scope.

Extra

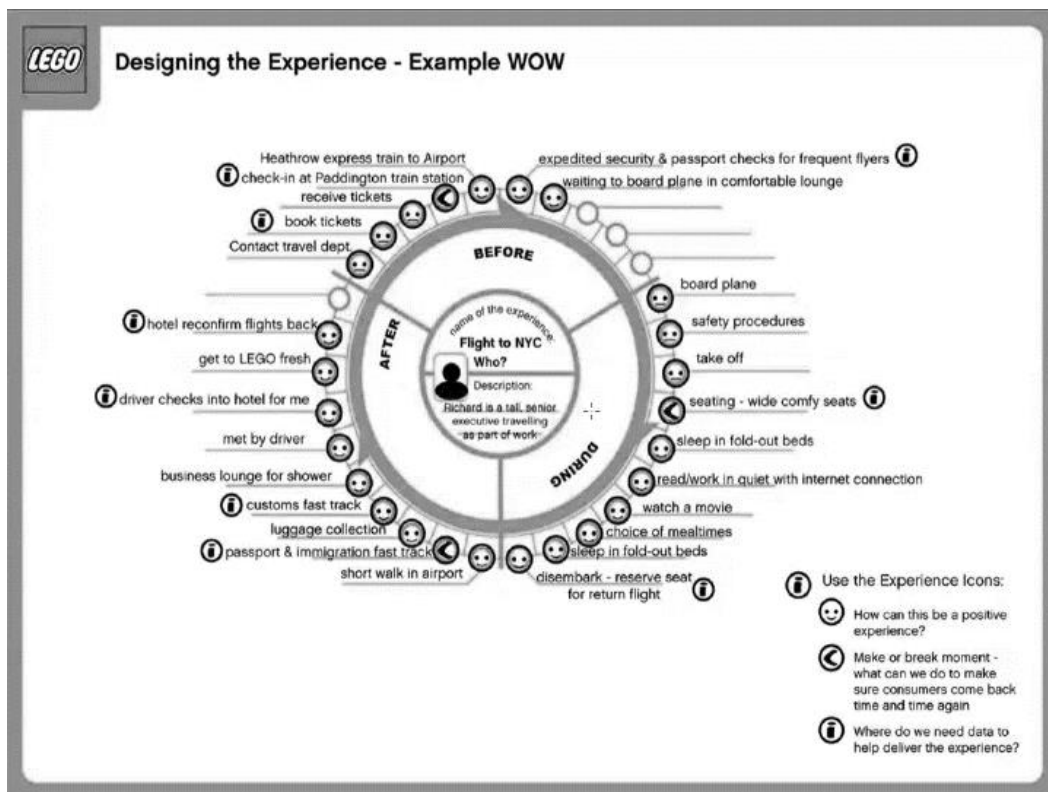
Experience Map

A graphical representation of an complete experience.

Captures activities, flows and emotions of people in relation to a product, service or ritual in their everyday lives.

Making one is a two-step process:

1. Start with framing, make a rough initial mapping of the current nature of the experience based on existing knowledge or those of users gained from interviews or observations
2. Map the experience, relations between activities, context, people and actions are mapped.



Links

Plutchik's wheel of emotions

<https://upload.wikimedia.org/wikipedia/commons/c/ce/Plutchik-wheel.svg>

Emotional Granularity Cards

https://diopd.org/wp-content/uploads/2016/06/positive_emotional-granularity_cards.pdf

Negative Emotion Topology

<https://emotiontypology.com/>