1. Structural principles

1. **Stay consistent** - Your user will thank you for spotting and recognizing relevant elements quickly.
2. **A clear visual hierarchy** / structure is key - it enables the user to scan the needed information in a destinguished way. Fast, efficient and without distraction.
3. **Understand the users' goals -** Sketch the users goals and find out about which information must be available at which point of interaction

2. Perception: color vision and peripheral/central vision

1. **Nine percent of men are color-blind vs. only half percent of women**. Take this into account, when designing solutions for male audience.
2. **Do not overwhelm your users - recurring design patterns (e.g. used in terms of safety) can lead to less attention given**
3. The users' peripheral vision determines, what users can see : Even though the middle of the screen is important for central vision, don't ignore what is in the viewers' peripheral vision. Make sure, important information is not placed outside of the radius.

3. Limits on attention / memory and forgetting

1. **Short-term memory is limited -** don't ask people to remember information from one place to another - such as in a checkout process - this can always lead to cancellation of the user's task
2. **People remember only four items at once** - Studies show, that memorizing many items at once, leads to the lack of memory. Turning **chunks** of information into structured fragments can help. (e.g. 782 229 293)
3. **Attention is selective -** People will pay attention to only one thing and ignore everything else as long as you give them specific instructions to do so, and the task doesn't take too long.

4. Reading and conditioning / learning & habits

1. **Reading a computer screen is harder than reading paper -** We need to take this into account, when optimizing digital solutions for people. Use of structured and annotated information can improve the overall reading experience on computer screens.

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2. **Reading and comprehending are two different things** - e.g. when designing for crucial processes like signing a contract online, a "Tl;dr" could be included in order to check and keep up with the user's comprehension.
3. **Reading is not as fluid as it seems -** Eyes move in quick. sharp jumps with short moments of stillness in between. That's why centered text is way harder to read for users, than left or right-aligned text.

5. Learning & decision-making

1. **People make most decisions unconsciously**, which does not mean they are irrational or bad. However, users still want a rational, logical reasoning for the decision they make - so for us designers is it crucial to know, the unconcious motivations of our user group to encourage their action.
2. **Mood influences the decision-making process** - the state of mood can and has be influenced by using small things like videos. People in good mood will rate a product as being more valuable to them as people in bad mood. If there just was a way to detect the **current emotional state** of the user, we designers could react with **different solutions for a variety of emotional stages**. But even without knowing them, we are still able to find and build on the emotional stages most likely for the user group we design for.
3. **People learn best from examples** - Don't just tell people what to do. **Show them and guide them** through the process.

6. Laws, time requirenments, emotions & bodily sensations

1. **Some types of mental processing are more challenging** than others - use **fitt's law** to determine motor loads and evaluate to see, if the **overall load can be reduced** in order to improve ease of use
2. **Expectations can change over time** - and so do the time requirenments from the users. Ten years ago, a website which took 20 seconds to load was nothing really uncommon. Today, anything longer than 3 seconds can already lead to inpatient users, who might even drop from the page
3. If an ongoing process takes **longer than one second**, always implement a process indicator to show the user, what amount of time he most likely has to wait

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7. What we need to know about motivation

1. People are more motivated as they **get cloaser to the goal** - when implementing a **process indiocator**, the process could be highlighted e.g. as some special success. As well, a process step indicator can be handy to show the users, how many forms are yet to fill in (+ estimated time left)
2. People are **more motivated by intrinsic than by extrinsic rewards** - **intrinsic rewards** (autonomy, lerning, mastery, meaning,...) are more about **feelings and liberties of** the individuals, while **extrinsic rewards (badges, money, points)** are controlled by external factors. Real-life example: That's why slot machines are not necessarily about the loss or outcome of money but even more: The user wants to get better and better in the game (intrinsic rewards), while getting incentivized by external factors such as badges, points and money. And as so **many factors come together** here, the loss of money is not perceived as being that tragic.
3. People are motivated by doing things on their own in an **autonomous way**. To encourage this aspect, as a designer we can give our users the feeling of them **being in control of the current task** and will reach their goal without any effort or assistance needed. E.g.: The newly released movie "Black Mirror - Bandersnatch" implements the user and his decisions within the movie, so the user can decide about which path the movie takes. But beware: The overuse of guidance in ground up intuitive process can already lead to less motivated users.