

A FINAL ONTOLOGY DEFINITIONS

- **Sneaking** is a strategy which hides, disguises, or delays the disclosure of important information that, if made available to users, would cause a user to unintentionally take an action they would likely object to.
 - **Bait and Switch** subverts the user's expectation that their choice will result in a desired action, instead leading to an unexpected, undesirable outcome.
 - * **Disguised Ads** *Bait and Switch* and use *Sneaking* to style interface elements so they are not clearly marked as an advertisement or other biased source. As a result, users are induced into clicking on the interface element because they assume that it is a relevant and salient interaction, leading to unwitting interaction with advertising content.
 - **Hiding Information** subverts the user's expectation that all relevant information to make an informed choice will be available to them, instead hiding information or delaying the disclosure of information until later in the user journey that may have led to them making another choice.
 - * **Sneak into Basket** *Hides Information* and uses *Sneaking* to add unwanted items to a user's shopping cart without their consent. As a result, a user assumes that only the items they explicitly added to their cart will be purchased, leading to unintentional purchase of additional items.
 - * **Drip Pricing, Hidden Costs, or Partitioned Pricing** *Hides Information* and uses *Sneaking* to reveal new charges or costs, present only partial price components, or otherwise delay revealing the full price of a product or service through late or incomplete disclosure. As a result, the user is misled about the total or complete price of the product or service, leading to them to make a purchase decision after they have expended effort on false pretenses.
 - * **Reference Pricing** *Hides Information* and uses *Sneaking* to include a misleading or inaccurate price for a product or service that makes a discounted price appear more attractive. As a result, the user is misled into believing that the price they pay is discounted, leading them to make a decision to purchase a product or service on false pretenses.
 - **(De)contextualizing Cues** subverts the user's expectation that provided information will guide the user to making an informed choice, instead confusing the user and/or preventing them from locating relevant information due to the context where information is presented.
 - * **Conflicting Information** uses *(De)contextualizing Cues* and *Sneaking* to include two or more sources of information that conflict with each other. As a result, the user is unsure what the consequences of their actions will be and will be more likely to accept default settings that may not be in their best interest.
 - * **Information without context** uses *(De)contextualizing Cues* and *Sneaking* to alter the relevant information or user controls to limit discoverability. As a result, the user is unlikely to find the information or action possibility they are interested in.
- **Obstruction** is a strategy which impedes a user's task flow, making an interaction more difficult than it inherently needs to be, dissuading a user from taking an action.
 - **Roach Motel** subverts the user's expectation that an action will be as easy to reverse as it is to make, instead creating a situation that is easy to get into, but difficult to get out of.
 - * **Immortal Accounts** create a *Roach Motel* and use *Obstruction* to make it difficult or impossible to delete a user account once it has been created. As a result, the user may create an account or share data with the false assumption that they can later delete this information, even though that account and/or data are then unable to be removed by the user.
 - * **Dead Ends** create a *Roach Motel* and use *Obstruction* to prevent users from finding information through inactive links or redirections that limit or completely prevent the display of relevant information. As a result, the user may seek to find relevant information or action possibilities but instead be left unable to achieve their goal.
 - **Creating Barriers** subverts the user's expectation that relevant user tasks will be supported by the interface, instead preventing, abstracting, or otherwise complicating a user task to disincentive user action.
 - * **Price Comparison Prevention** *Creates Barriers* and uses *Obstruction* by excluding relevant information, limiting the ability of a user to copy/paste, or otherwise inhibiting a user from comparing prices across two or more vendors. As a result, the user cannot make an informed decision about where to buy a product or service.
 - * **Intermediate Currencies** *Create Barriers* and use *Obstruction* to hide the true cost of a product or service by requiring the user to spend real money to purchase a virtual currency that is then used to purchase a product or service. As a result, the user is unable to easily ascertain the true monetary cost of a product or service, leading them to make an uninformed purchase decision based on an obscured cost.
 - **Adding Steps** subverts the user's expectation that a task will take as few steps as technologically needed, instead creating additional points of unnecessary but required user interaction to perform a task.
 - * **Privacy Mazes** *Add Steps* and use *Obstruction* to require a user to navigate through many pages to obtain relevant information or control without a comprehensive and exhaustive overview. As a result, the user is prevented from easily discovering relevant information or action possibilities, leaving them unable to make informed decisions regarding their privacy.
- **Interface Interference** is a strategy which privileges specific actions over others through manipulation of the user interface, thereby confusing the user or limiting discoverability of relevant action possibilities.

- **Manipulating Choice Architecture** subverts the user's expectation that the options presented will support their desired goal, instead including an order or structure of options that makes another outcome more likely.
 - * **False Hierarchy** *Manipulates the Choice Architecture*, using *Interface Interference* to give one or more options visual or interactive prominence over others, particularly where items should be in parallel rather than hierarchical. As a result, the user may misunderstand or be unable to accurately compare their options, making a selection based on a false or incomplete choice architecture.
 - * **Visual Prominence** *Manipulates the Choice Architecture*, using *Interface Interference* to place an element relevant to user goals in visual competition with a more distracting and prominent element. As a result, the user may forget about or be distracted from their original goal, even if that goal was their primary intent.
 - * **Bundling** *Manipulates the Choice Architecture*, using *Interface Interference* to group two or more products or services in a single package at a special price. As a result, the user may incorrectly assume that these items must be purchased as a bundle or be unaware of the unbundled price for the component elements, possibly leading to an uninformed purchasing decision.
 - * **Pressured Selling** *Manipulates the Choice Architecture*, using *Interface Interference* to preselect or use visual prominence to focus user attention on more expensive product options. As a result, the user may be unaware that a lower price is available or even desirable for their needs, steering the user into making a more expensive product selection than they otherwise would have.
- **Bad Defaults** subverts the user's expectation that default settings will be in their best interest, instead requiring users to take active steps to change settings that may cause harm or unintentional disclosure of information.
- **Emotional or Sensory Manipulation** subverts the user's expectation that the design of the site will allow them to achieve their goal without manipulation, instead altering the language, style, color, or other design elements to evoke an emotion or manipulate the senses in order to persuade the user into a particular action.
 - * **Cuteness** uses *Emotional or Sensory Manipulation* and *Interface Interference* to embed attractive cues in the design of a robot interface or form factor. As a result, a user may place undue trust in the robot, leading the user to inaccurately or incompletely assess the risks of interacting with the robot.
 - * **Positive or Negative Framing** uses *Emotional or Sensory Manipulation* and *Interface Interference* to visually obscure, distract, or persuade a user from important information they need to achieve their goal. As a result, the user may assume that the system is providing equal access to relevant information, leading the user to be distracted by positive or negative aesthetic cues that distract them from important information or action possibilities or otherwise convince them to pursue a different goal.
- **Trick Questions** subvert the user's expectation that prompts will be written in a straightforward and intelligible manner, instead using confusing wording, double negatives, or otherwise leading language or interface cues to manipulate a user's choice.
- **Choice Overload** subverts the user's expectation that the choices they make should be understandable and comparable, instead providing too many options to compare or encouraging users to overlook relevant information due to the volume of choices provided.
- **Hidden Information** subverts the user's expectation that relevant information will be made accessible and visible, instead disguising relevant information or framing it as irrelevant.
- **Language Inaccessibility** subverts the user's expectation that guidance will be provided in a way that is understandable and intelligible, instead using unnecessarily complex language or a language not spoken by the user to decrease the likelihood the user will make an informed choice.
 - * **Wrong Language** leverages *Language Accessibility*, using *Interface Interference* to provide important information in a different language than the official language of the country where users live. As a result, the user will not have access to relevant information about their interaction with the system and their ability to choose, leading to uninformed decisions.
 - * **Complex Language** leverages *Language Accessibility*, using *Interface Interference* to make information difficult to understand by using obscure word choices and/or sentence structure. As a result, the user will not be able to comprehend relevant information about their interaction with the system and their ability to choose, leading to uninformed decisions.
- **Feedforward Ambiguity** subverts the user's expectation that their choice will be likely to result in an action they can predict, instead providing a discrepancy between information and actions available to users that results in an outcome that is different from what the user expects.
- **Forced Action** is a strategy which requires users to knowingly or unknowingly perform an additional and/or tangential action or information to access (or continue to access) specific functionality, preventing them from continuing their interaction with a system without performing that action.
 - **Nagging** subverts the user's expectation that they have rational control over the interaction they make with a system, instead distracting the user from a desired task the user is focusing on to induce an action or make a decision the user does not want to make by repeatedly interrupting the user during normal interaction.
 - **Forced Continuity** subverts the user's expectation that a subscription created in the past will not auto-renew or otherwise continue in the future, instead causing undesired charges, difficulty to cancel, or lack of awareness that a subscription is still active.
 - **Forced Registration** subverts the user's expectation that they can complete an action without registering or creating an account, instead tricking them into thinking that registration is required, often resulting in the sharing of unneeded personal data.

- **Forced Communication or Disclosure** subverts the user's expectation that a system will only request information needed to complete their desired goals, instead tricking them into sharing more information about themselves or using their information for purposes that they do not desire.
 - * **Privacy Zuckering** uses *Forced Communication or Disclosure* as a type of *Forced Action* to trick users into sharing more information about themselves than they intend to or would agree to if fully informed. As a result, the user assumes that information they are requested to provide is vital for use of the service, even while this information is used or sold for other purposes.
 - * **Friend Spam** uses *Forced Communication or Disclosure* as a type of *Forced Action* to collect information about other users through extractive means that results in unwanted contact from the service. As a result, the user assumes that information about their friends or social network is vital for use of the service, even while this information is used to spam other users.
 - * **Address Book Leeching** uses *Forced Communication or Disclosure* as a type of *Forced Action* to collect information about other users through extractive means, which are often hidden to the user and/or conducted under false pretenses. As a result, the user assumes that only vital information will be collected when signing up for or using a service, even while this information is used to gain knowledge of other users or inform other purposes that have not been initially declared.
 - * **Social Pyramid** uses *Forced Communication or Disclosure* as a type of *Forced Action* to manipulate existing users into recruiting new users to use a service, often by tying this recruitment to additional functionality or other benefits. As a result, the user assumes that social recruiting is necessary to continue to use aspects of the service, even while this information is primarily used to build the service's user base.
- **Gamification** subverts the user's expectation that system functionality is based on alignment with user goals and needs, instead coercing them into gaining access to aspects of a service through repeated (and perhaps undesired) use of aspects of the service.
 - * **Pay-to-Play** uses *Gamification* as a type of *Forced Action* to initially claim that aspects of a service or product are available via purchase or download, but then later charging users to actually obtain that functionality. As a result, the user incorrectly assumes that a service or product will allow them certain functionality, leading to them downloading or purchasing the product or service under false pretenses.
 - * **Grinding** uses *Gamification* as a type of *Forced Action* to require repeated, often cumbersome and labor-intensive actions over time in order to obtain certain relevant functionality. As a result, the user may seek to avoid these repetitive actions, leading to them making unwanted additional in-app purchases to unlock the same functionality without "grinding" over an extended period of time.
- **Attention Capture** subverts the user's expectation that they have rational control over the time they spend using a system, instead tricking them into spending more time or other resources to continue use for longer than they otherwise would.
 - * **Auto-Play** uses *Attention Capture* as a type of *Forced Action* to automatically play new video after an existing video has completed. As a result, the user may lose control over their viewing experience, leading them to watch more content than they intended or result in them watching content that is unexpected or harmful.
- **Social Engineering** is a strategy which presents options or information that causes a user to be more likely to perform a specific action based on their individual and/or social cognitive biases, thereby leveraging a user's desire to follow expected or imposed social norms.
 - **Scarcity or Popularity Claims** subverts the user's expectation that information provided about a product's availability or desirability is accurate, instead pressuring the user to purchase a product without additional reflection or verification.
 - * **High Demand** uses *Scarcity and Popularity Claims* as a type of *Social Engineering* to indicate that a product is in high-demand or likely to sell out soon, even though that claim is misleading or false. As a result, the user may assume that demand is high when it is not, leading to their uninformed purchase of a product or service.
 - **Social Proof** subverts the user's expectation that the indicated behavior of others in a specific situation is correct or desirable, instead accelerating user decision-making and encouraging the user to trust flawed implications through provided information.
 - * **Low Stock** uses *Social Proof* as a type of *Social Engineering* to indicate that a product is limited in quantity, even though that claim is misleading or false. As a result, the user may assume that a product is desirable due to demand, leading to undue or uninformed pressure to buy the product immediately.
 - * **Endorsements and Testimonials** use *Social Proof* as a type of *Social Engineering* to indicate that a product or service has been endorsed by another consumer, even though the source of that endorsement or testimonial is biased, misleading, incomplete, or false. As a result, the user may assume that the endorsement or testimonial is accurate and unbiased, leading to their uninformed purchase of a product or service.
 - * **Parasocial Pressure** uses *Social Proof* as a type of *Social Engineering* to indicate that a product or service has been endorsed by a celebrity, influencer, or other entity that the user trusts, even though the source of that endorsement is biased, misleading, incomplete, or false. As a result, the user may assume that the endorsement is accurate and unbiased, leading to their uninformed purchase of a product or service.
 - **Urgency** subverts the user's expectation that information provided about discounts or a limited-time deal for a product is accurate, instead accelerating the user's decision-making process by demanding immediate or timely action.
 - * **Activity Messages** use *Urgency* as a type of *Social Engineering* to describe other user activity on the site or service, even though the data presented about other users' purchases, views, visits, or contributions are misleading or false. As a result, the user may

falsely feel a sense of urgency, assuming that others users are purchasing or otherwise interested product or service, leading to their uninformed purchase of a product or service.

- * **Countdown Timers** use *Urgency* as a type of *Social Engineering* to indicate that a deal or discount will expire by displaying a countdown clock or timer, even though the clock or timer is completely fake, disappears, or resets automatically. As a result, the user may feel undue urgency and purchasing pressure, leading to their uninformed purchase of a product or service.
- * **Limited Time Messages** use *Urgency* as a type of *Social Engineering* to indicate that a deal or discount will expire soon or be available only for a limited time, but without specifying a specific deadline. As a result, the user may feel undue urgency and purchasing pressure, leading to their uninformed purchase of a product or service.
- **Personalization** subverts the user's expectation that products or service features are offered to all users in similar ways, instead using personal data to shape elements of the user experience that manipulate the user's goals while hiding other alternatives.
- * **Confirmshaming** uses *Personalization* as a type of *Social Engineering* to frame a choice to opt-in or opt-out of a decision through emotional language or imagery that relies upon shame or guilt. As a result, the user may be convinced to change their goal due to the emotionally manipulative tactics, resulting in being steered away from making a choice that matched their initial goal.