

# Design of Failover Strategies for Conversational Agents

Conversational Agents (CAs) such as Amazon's Alexa or Google's Assistant are gaining popularity as they help us to reduce the complexity of our daily activities. Despite the rise on the adoption of these products, recent studies show that people struggle to engage with them. One of the main reasons are the UX failures users encounter while interacting with the product. Contrary to non-AI systems, CAs can produce failures related to the active role of its embedded AI, for example, by making wrong assumptions about the user intentions. By investigating the effects that failures have in the UX of CAs, strategies were created as a valuable tool for the improvement of CAs and future AI-powered products.

## Research Questions:

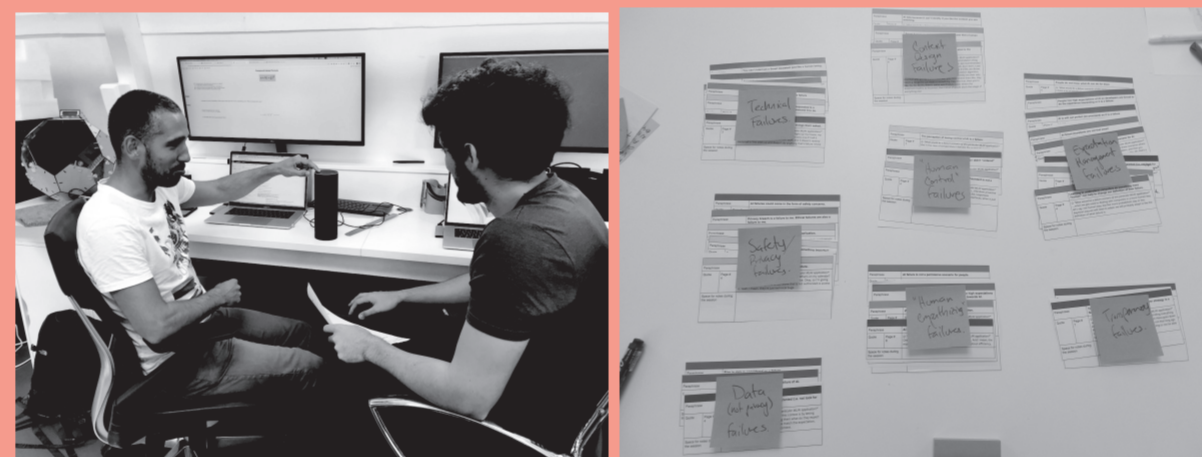
- What do CAs' users and developers perceive as failure?
- What kind of failures could occur on CAs?
- What are the strategies that designers could follow in order to overcome these failures and improve the user experience of CAs?
- What strategies are currently used, if any?

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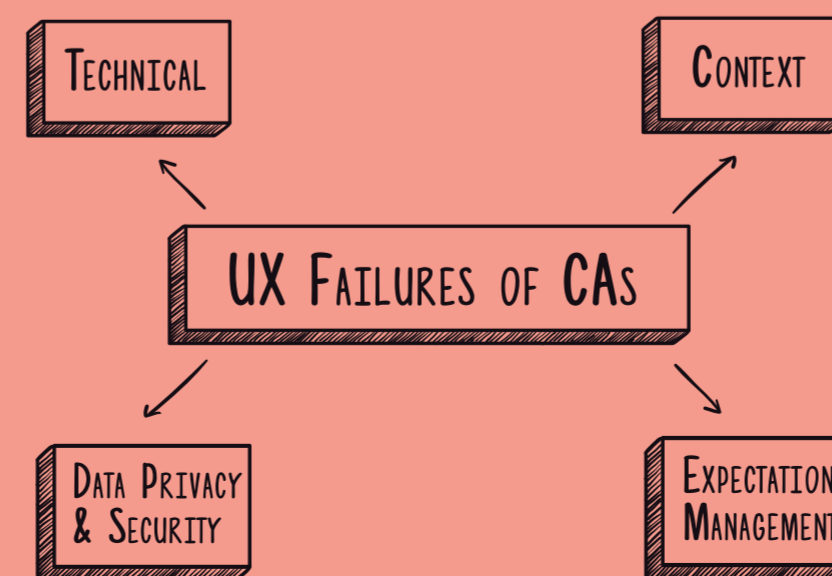


## UX Failures of CAs

I conducted an empirical study to investigate the possible "design failures" of CAs from a user perspective. The data were collected from 6 CA users, some being developers as well, during individual semi-structured interviews. The data collected was analyzed using statement. These cards were created by underlining the most interesting insights found in the interviews transcripts and the seminar discussion. The analysis of the data resulted in 4 main UX failures.



- 1. Technical Failures:** the product's technical features are not performing as they were designed or expected to;
- 2. Context Failures:** CAs response to context related issues is not adequate or inexistent;
- 3. Data Safety and Privacy Failures:** the intended trustworthiness that CA developers want to reflect has been damaged by users negative experiences and several public scandals;
- 4. Expectation Management Failures:** CAs don't live up to the promise (expectations) that developing companies have sold of "AI-powered" products;



## Failover Strategies for CAs

To address the third research question, a generative session was organized to gather the biggest amount of ideas and strategies to overcome the previously defined design failures. The generative session took place at the IDE Faculty where 6 students gathered to brainstorm to create failover strategies for CAs. I personally served as facilitator of the session. The data collected was further discussed, clustered and classified with the help of the participants. During the session, the following failover strategies were generated:



### Technical Failover Strategies

- "Humanize" CAs to allow failure from users POV
- Exposure product limitations
- Train your own AI

### Context Failover Strategies

- Choose predefined context
- CA asks for context
- CA Recognizes Context "Intelligently"

### Data Safety and Privacy Failover Strategies

- Inform user where is the data going
- Give user access to own data
- Treat data as Personas

### Expectation Management Failover Strategies

- CA learning mode
- Show user real CA intelligence
- Mention CA limitations and capabilities clearly

