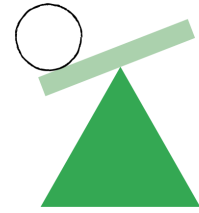


Errors + Graceful Failure

Chapter worksheet



Instructions

Block out time to get as many cross-functional leads as possible together in a room to work through these exercises & checklists.

Exercises

1. Error audit [~1 hour]

Collect canonical error examples to define existing and potential errors and solutions.

2. Quality assurance [~30 minutes]

Prioritize how you'll test and monitor errors and reporting so you can hear from your users early and often.



1. Error audit

As a team, brainstorm what kinds of errors users could encounter. If your team has a working prototype of your feature, try to add current examples.

Use the template below to start collecting error examples so your team has a shared understanding about the different error types and solutions your model could produce.

Error Add screenshots, pictures, or logs to show what the user sees when encountering the error	Users
Error type <input type="checkbox"/> System limitation - Your system can't provide the right answer, or any answer at all, due to inherent limitations to the system. <input type="checkbox"/> Context - The system is “working as intended,” but the user perceives an error because the actions of the system aren't well-explained, break the user's mental model, or were based on poor assumptions. <input type="checkbox"/> Background - Situations in which the system isn't working correctly, but neither the user nor the system register an error.	User stakes <input type="checkbox"/> low <input type="checkbox"/> high



Error sources

Take each error identified above through these questions to determine the source of the error:

Input error signals

- ☐ Did the user anticipate the auto-correction of their input into an AI system?
- ☐ Was the user's habituation interrupted?
- ☐ Did the model improperly weigh a user action or other signal? If yes, likely a context error.

Relevance error signals

- ☐ Is the model lacking available data or requirements for prediction accuracy?
- ☐ Is the model receiving unstable or noisy data?
- ☐ Is the system output presented to users in a way that isn't relevant to the user's needs?

System hierarchy error

- ☐ Is your user connecting your product to another system, and it isn't clear which system is in charge?
- ☐ Are there multiple systems monitoring a single (or similar) output and an event causes simultaneous alerts? Signal crashes increase the user's mental load because they have to parse multiple signals to figure out what happened and what to do next.

Failure state

- ☐ Is your feature unusable as the result of multiple errors?



Error resolution

Once you have identified the source or sources of the error, complete the sections below for each of the errors in the template with your team's plan for improving / reducing the identified error: Create as many copies as you need to cover all your identified errors.

Error rationale Why the user thinks this is an error:	Solution type <input type="checkbox"/> Feedback <input type="checkbox"/> User control <input type="checkbox"/> Other:
Error resolution User path: Examples: User sees errors, gives feedback, completes task; User sees error, takes over control, completes task Opportunity for model improvement: Example: User's feedback logged for model tuning	



2. Quality assurance

Getting your feature into users' hands is essential for identifying errors that your team, as expert users, may never encounter. Meet as a team to prioritize how you want to monitor errors reported by users so that your model is being tested and criticized by your users early and often.

As you have this discussion, consider all potential sources of error reporting:

- Reports sent to customer service
- Comments and reports sent through social media channels
- In-product metrics
- In-product surveys
- User research (out-of-product surveys, deep dive interviews, diary studies, etc.)

QA template

Goal	Review frequency <input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Other:
Method	
Start date: Review / End date:	