INSTALLING FLUTTER
RETURNING TO EASY

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ISSUE STATEMENT

- The Flutter framework tries to simplify mobile app development.

- The pitch is simplicity.

- Customer feedback has expressed that installing the framework is anything but simple.

- What issues does Flutter have with getting new or experienced users to install the framework?

FOCUS ON DEVELOPMENT PLATFORM

- Getting started makes you choose the platform *on which* you develop
- Four choices: Windows, macOS, Linux, ChromeOS

UNFOCUSED ON TARGET PLATFORM

Can build apps for six targets

- Windows
- macOS
- Linux
- iOS
- Android
- Web

APPROACH

- Interview Flutter users for their views on installing Flutter (Freelisting)
- Guide potential Flutter users through an install (Walkthrough)
  - Use existing documentation without comment or assistance
- Diagram the current workflow (As Is, Business Origami)
- Propose a new workflow based on inputs (To Be, Business Origami)

FREELISTING DURING INTERVIEWS

Experienced mobile developers

- Simple to install Flutter
  - Download
  - Decompress
- Unclear how to specify targets when building apps
- Desktop options not highlighted
- Difficult to install and configure of supporting software
  - Compilers: Software to build a native version of the app
  - Emulators: Software to imitate a physical device to test the app
- Issues for supporting software
  - Software this software needs to work
  - Keeping the software current
  - Keeping versions compatible with all needed target platforms
- Missing information found on Google, ChatGPT, StackOverflow
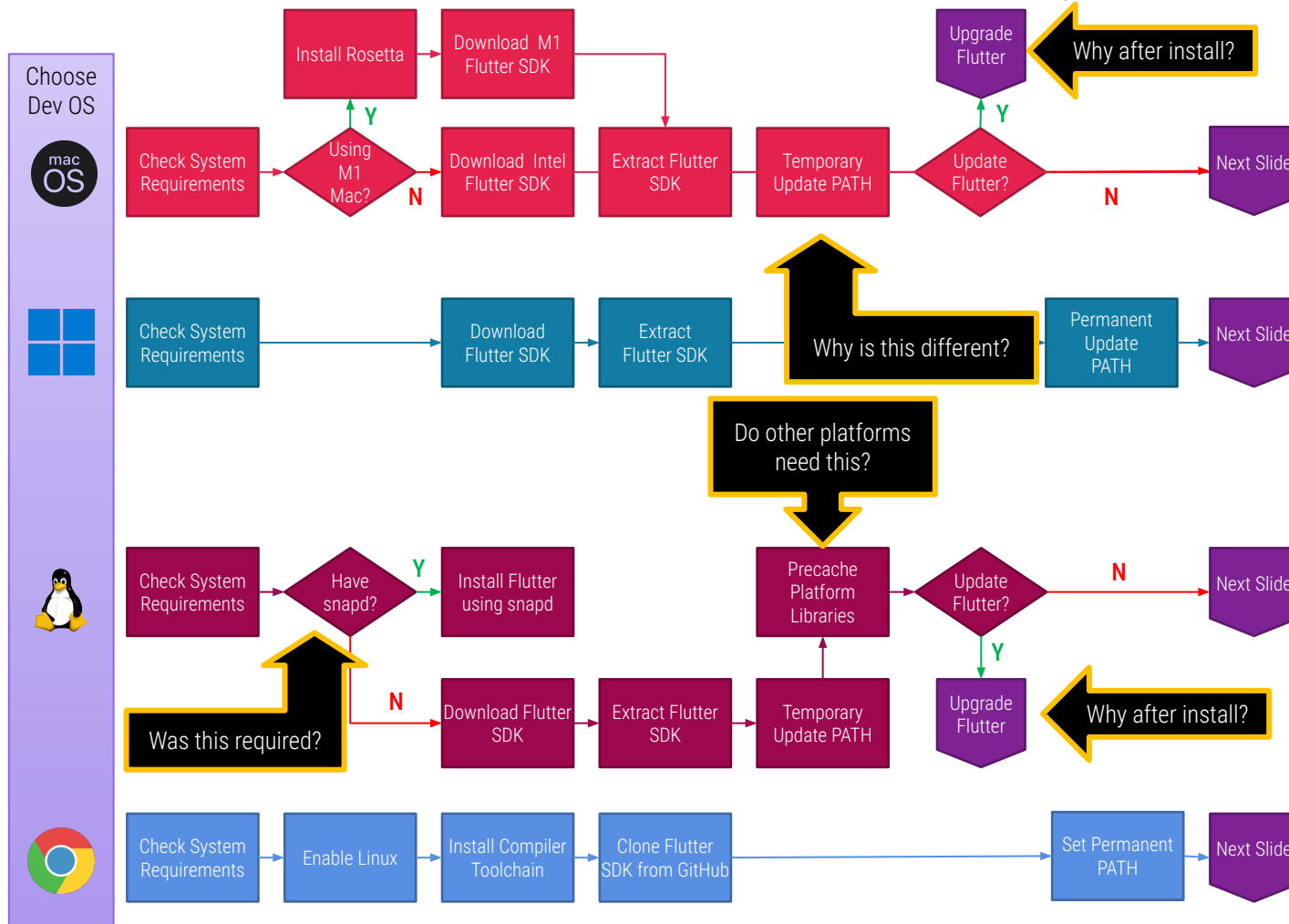- No troubleshooting instructions provided

INSTALLATION WALKTHROUGHS

Experienced technical writers

- Focuses on dev platform at cost of target platform
- Kitchen sink docs: includes everything, prioritizes nothing
- Missing or incomplete system requirements
- Order of instruction confusing
  - Install Flutter, verify install, install supporting software?
  - Install Flutter but add upgrade option at the end?
- Verification step comes before supporting software installed
  - Gives errors without corresponding explanation in docs
  - Shows errors that lack context or necessity
- Length of instructions daunting
- No expectations of time or necessity provided
- Instructions inconsistent across dev platforms
- Some troubleshooting steps not provided

INSTALL WORKFLOW

https://docs.flutter.dev/get-started/install

INSTALL WORKFLOW

https://docs.flutter.dev/get-started/install

Should these be prereqs?

Why are we running this now?

Didn't we install already?

macOS

Previous Slide → Run flutter doctor → Any Errors? → Need VSC? → Need Chrome? → Need AS? → Need XCode? → Clone Flutter SDK from GitHub → Google TOS Warning → Configure Analytics

Finish ← Set up Editor ← Install Chrome ← Install Android Studio ← Install XCode

Set Permanent PATH

Windows

Previous Slide → Run flutter doctor → Any Errors? → Need VSC or Plugins? → Need VS22? → Need AS? → Need Chrome? → Google TOS Warning → Configure Analytics

Set up Editor ← Install VS22 ← Install Android Studio ← Install Chrome

Is this needed?

Do we explain the errors?

Wouldn't this warning happen by now?

Why set permanent PATH here?

Linux

Previous Slide → Run flutter doctor → Any Errors? → Need VSC? → Need Linux? → Need AS? → Need Chrome? → Google TOS Warning → Configure Analytics → Set Permanent PATH via .rc

Finish ← Set up Editor ← Install Linux Dev Tools ← Install Android Studio ← Install Chrome ← Set Permanent PATH via .*profile ← PATH fixed?

Chrome

Previous Slide → Run flutter doctor → Any Errors? → Need VSC? → Need AS? → Need Chrome? → Google TOS Warning → Configure Analytics

Finish ← Set up Editor ← Install Android Studio ← Install Chrome

KEY FINDINGS

- Target environment should factor into decision
- Prerequisites lack complete instructions
- Every development platform needs supporting software
- Easy to install Flutter SDK
- Not clear what developers need to have to develop
- Flutter doctor should run after one compiler has been installed
- Flutter doctor results need more explanation, troubleshooting
- Instructions provide uncurated guide, need more focus
- Instructions lack flow; have too many dams and switchbacks
- Supporting software needs troubleshooting info
- Guides should be structured in similar fashion

Overview of Needed Changes

- Provide context in an overview of what Flutter needs to work
  - Provide matrix of what dev platforms can build which targets
  - Point that this covers install, not upgrade
  - Note Google ToS
- Two workflow options
  - Option 1: Limit install to dev to target tutorial
    - Example: Install on Windows and deploy to Windows
    - Add options to add other targets afterward
  - Option 2: Limit install to web only
    - Example: Install on Chrome to debug web only
    - Add options to add other targets afterward
- Explain what steps are required and optional
- Explain error messages
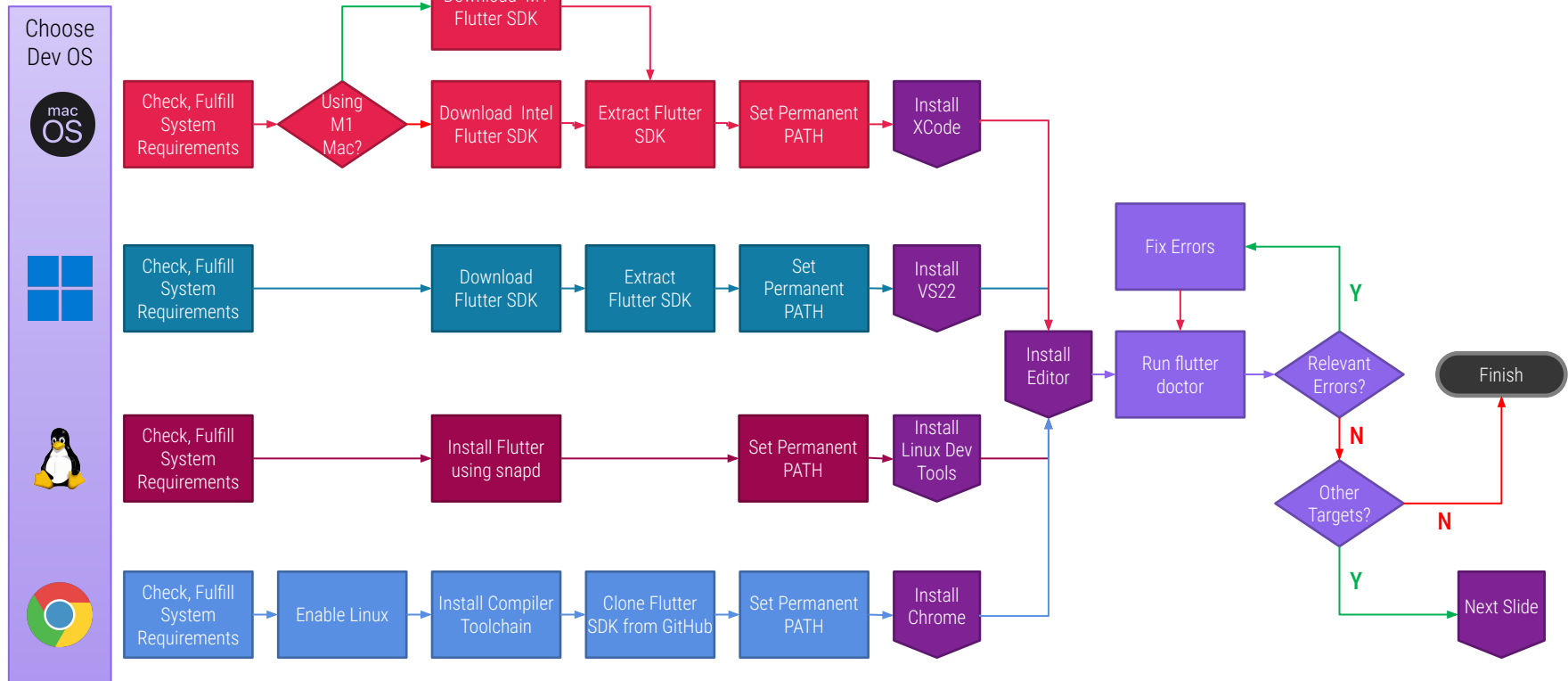- Offer option to install other software for other targets after install

LINK DEV TO TARGET PLATFORM

Focus install on platform *for which* and *on which* you develop

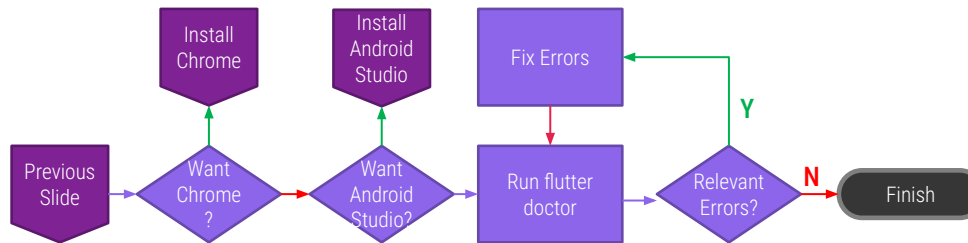| Dev Platform	Web	Android	iOS	macOS	Windows	Linux
Required Software	Chrome	Android Studio	Xcode	Xcode	Visual Studio	Linux Dev Tools
			iOS	macOS		

PROPOSED INSTALL WORKFLOW

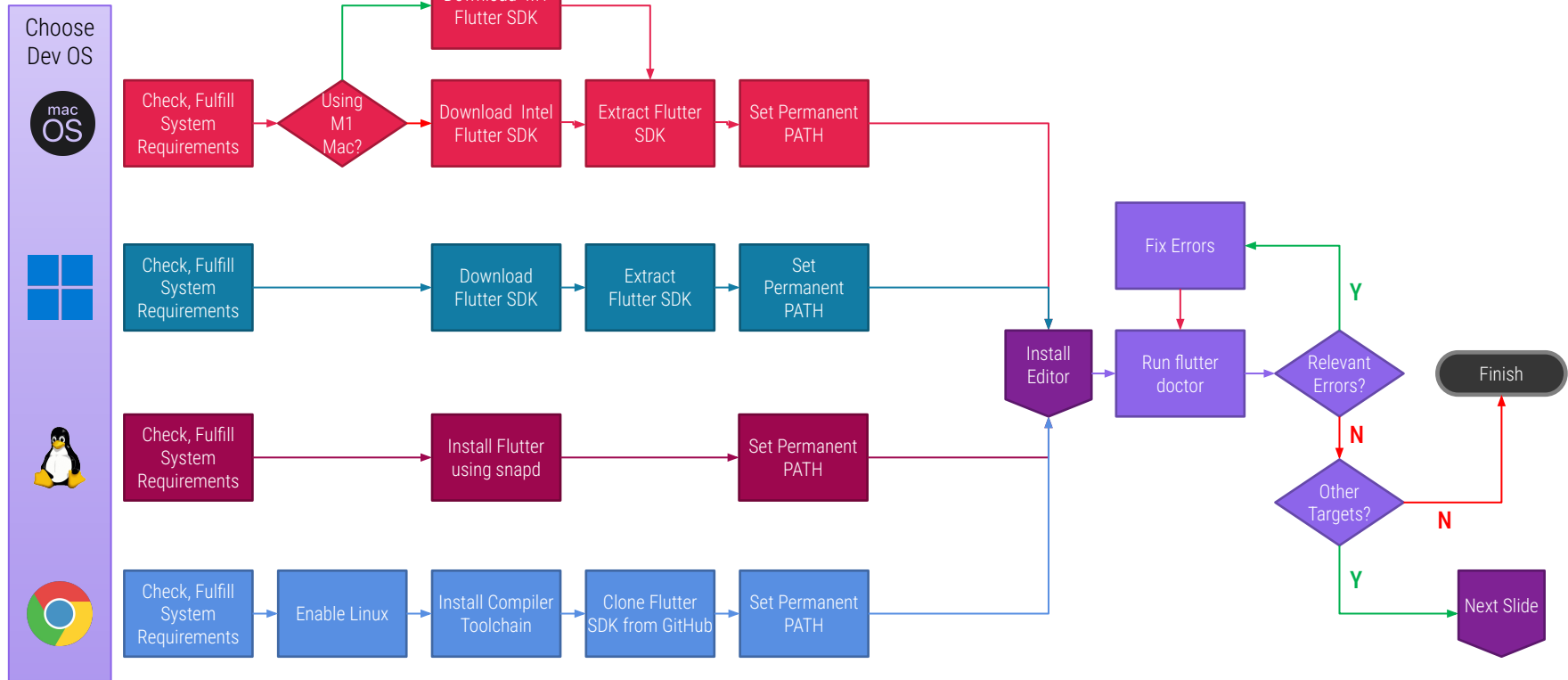Option 1: Install native compiler first, then optional target compilers

PROPOSED INSTALL WORKFLOW

Option 1: Install native compiler first, then optional target compilers

PROPOSED INSTALL WORKFLOW

Option 2: Install web only, then optional target compilers

PROPOSED INSTALL WORKFLOW

Option 2: Install web only, then optional target compilers