LLVM.org Website Redesign

Google Summer of Code 2024

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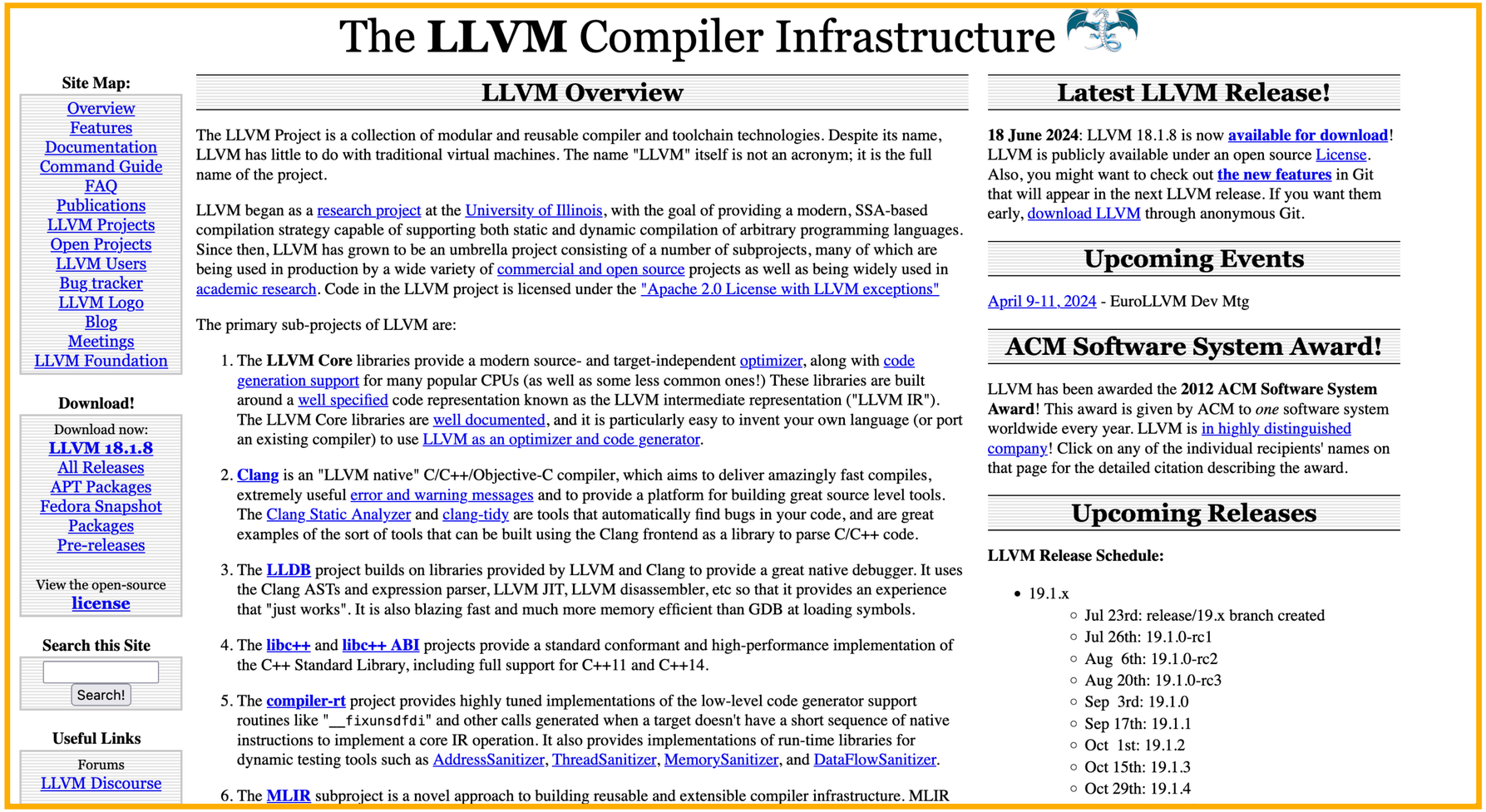
Why do we need a new website?

Current Website

- Hard to Navigate
- Cluttered
- Outdated Design



The LLVM Compiler Infrastructure

Site Map:

Overview
Features
Documentation
Command Guide
FAQ
Publications
LLVM Projects
Open Projects
LLVM Users
Bug tracker
LLVM Logo
Blog
Meetings
LLVM Foundation

Download!

Download now:
LLVM 18.1.8
All Releases
APT Packages
Fedora Snapshot Packages
Pre-releases

View the open-source **license**

Search this Site

Search!

Useful Links

Forums
LLVM Discourse

LLVM Overview

The LLVM Project is a collection of modular and reusable compiler and toolchain technologies. Despite its name, LLVM has little to do with traditional virtual machines. The name "LLVM" itself is not an acronym; it is the full name of the project.

LLVM began as a research project at the University of Illinois, with the goal of providing a modern, SSA-based compilation strategy capable of supporting both static and dynamic compilation of arbitrary programming languages. Since then, LLVM has grown to be an umbrella project consisting of a number of subprojects, many of which are being used in production by a wide variety of commercial and open source projects as well as being widely used in academic research. Code in the LLVM project is licensed under the "Apache 2.0 License with LLVM exceptions"

The primary sub-projects of LLVM are:

1. The **LLVM Core** libraries provide a modern source- and target-independent optimizer, along with code generation support for many popular CPUs (as well as some less common ones!) These libraries are built around a well specified code representation known as the LLVM intermediate representation ("LLVM IR"). The LLVM Core libraries are well documented, and it is particularly easy to invent your own language (or port an existing compiler) to use LLVM as an optimizer and code generator.
2. **Clang** is an "LLVM native" C/C++/Objective-C compiler, which aims to deliver amazingly fast compiles, extremely useful error and warning messages and to provide a platform for building great source level tools. The Clang Static Analyzer and clang-tidy are tools that automatically find bugs in your code, and are great examples of the sort of tools that can be built using the Clang frontend as a library to parse C/C++ code.
3. The **LLDB** project builds on libraries provided by LLVM and Clang to provide a great native debugger. It uses the Clang ASTs and expression parser, LLVM JIT, LLVM disassembler, etc so that it provides an experience that "just works". It is also blazing fast and much more memory efficient than GDB at loading symbols.
4. The **libc++** and **libc++ ABI** projects provide a standard conformant and high-performance implementation of the C++ Standard Library, including full support for C++11 and C++14.
5. The **compiler-rt** project provides highly tuned implementations of the low-level code generator support routines like "`__fixunsdfdi`" and other calls generated when a target doesn't have a short sequence of native instructions to implement a core IR operation. It also provides implementations of run-time libraries for dynamic testing tools such as AddressSanitizer, ThreadSanitizer, MemorySanitizer, and DataFlowSanitizer.
6. The **MLIR** subproject is a novel approach to building reusable and extensible compiler infrastructure. MLIR

Latest LLVM Release!

18 June 2024: LLVM 18.1.8 is now **available for download**! LLVM is publicly available under an open source License. Also, you might want to check out **the new features** in Git that will appear in the next LLVM release. If you want them early, download LLVM through anonymous Git.

Upcoming Events

April 9-11, 2024 - EuroLLVM Dev Mtg

ACM Software System Award!

LLVM has been awarded the **2012 ACM Software System Award**! This award is given by ACM to *one* software system worldwide every year. LLVM is in highly distinguished company! Click on any of the individual recipients' names on that page for the detailed citation describing the award.

Upcoming Releases

LLVM Release Schedule:

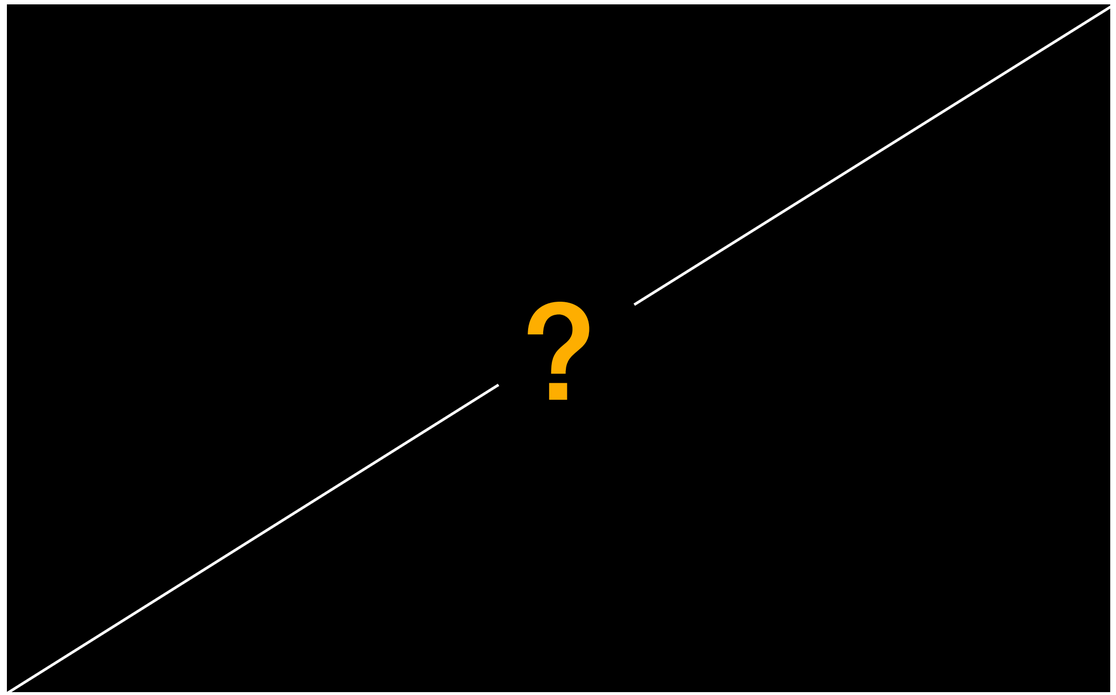
- 19.1.x
  - Jul 23rd: release/19.x branch created
  - Jul 26th: 19.1.0-rc1
  - Aug 6th: 19.1.0-rc2
  - Aug 20th: 19.1.0-rc3
  - Sep 3rd: 19.1.0
  - Sep 17th: 19.1.1
  - Oct 1st: 19.1.2
  - Oct 15th: 19.1.3
  - Oct 29th: 19.1.4

Screenshot of llvm.org landing page

Project Goals

Project Goals

- Modern LLVM.org website
- Navigation, mobile support & accessibility
- Content Discoverability & Usability
- Maintainability



Project Scope

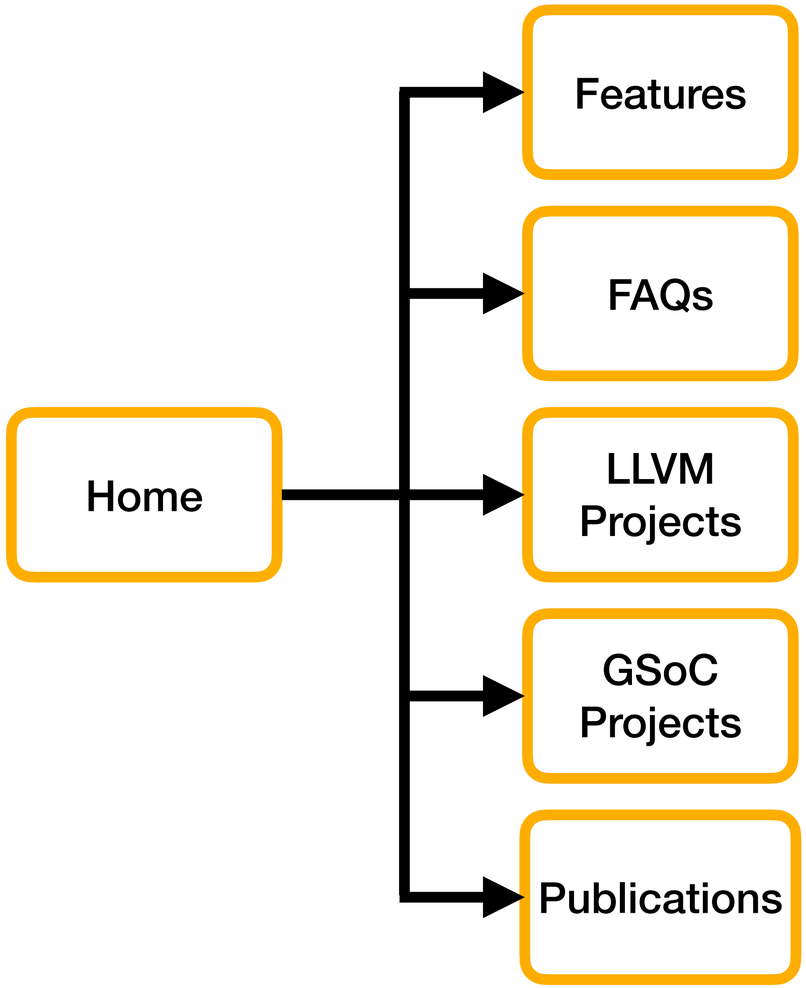
Project Scope

Objective: Redesign the LLVM website to improve user experience and engagement.

Key Areas of Focus:

- Modernize design and layout
- Accessibility and usability
- Maintainability

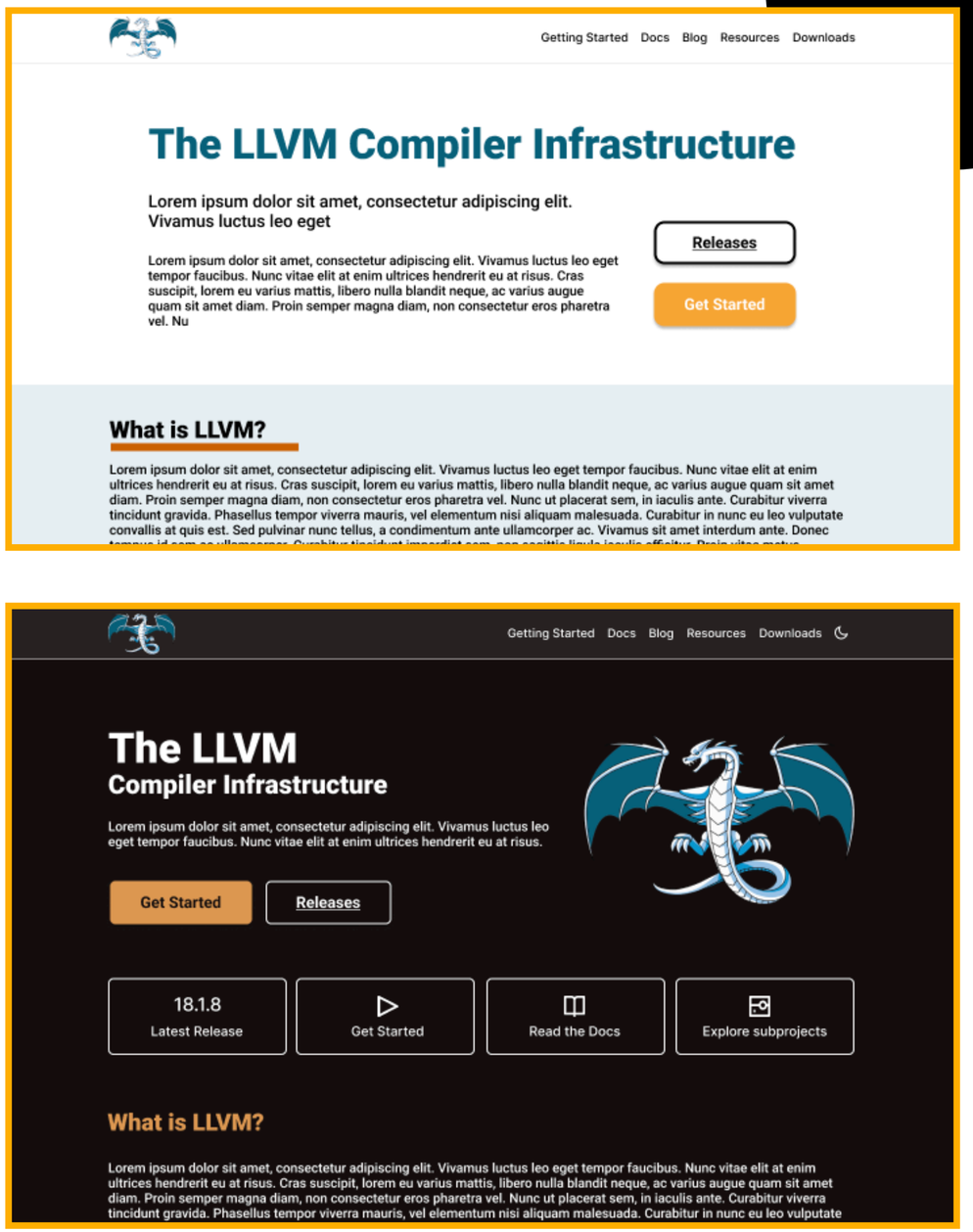
Site Map



Achievements & Progress

Achievements & Progress

- Content Audit
  - Survey (Current Website)
  - RFC
- Create Design Mockups
- Survey for feedback on designs

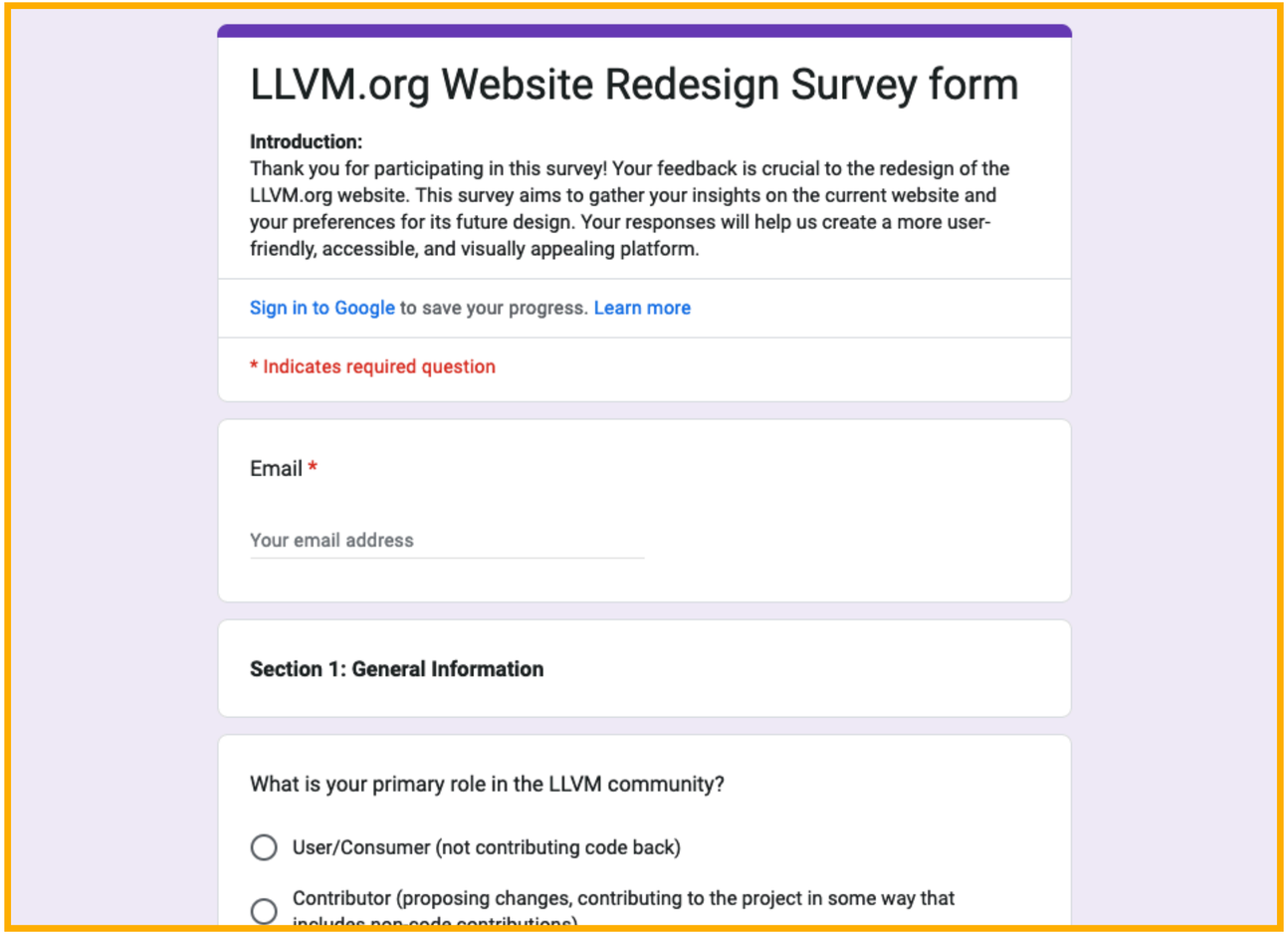


Screenshots of Website Mockups

Survey on Current Website

Content Audit

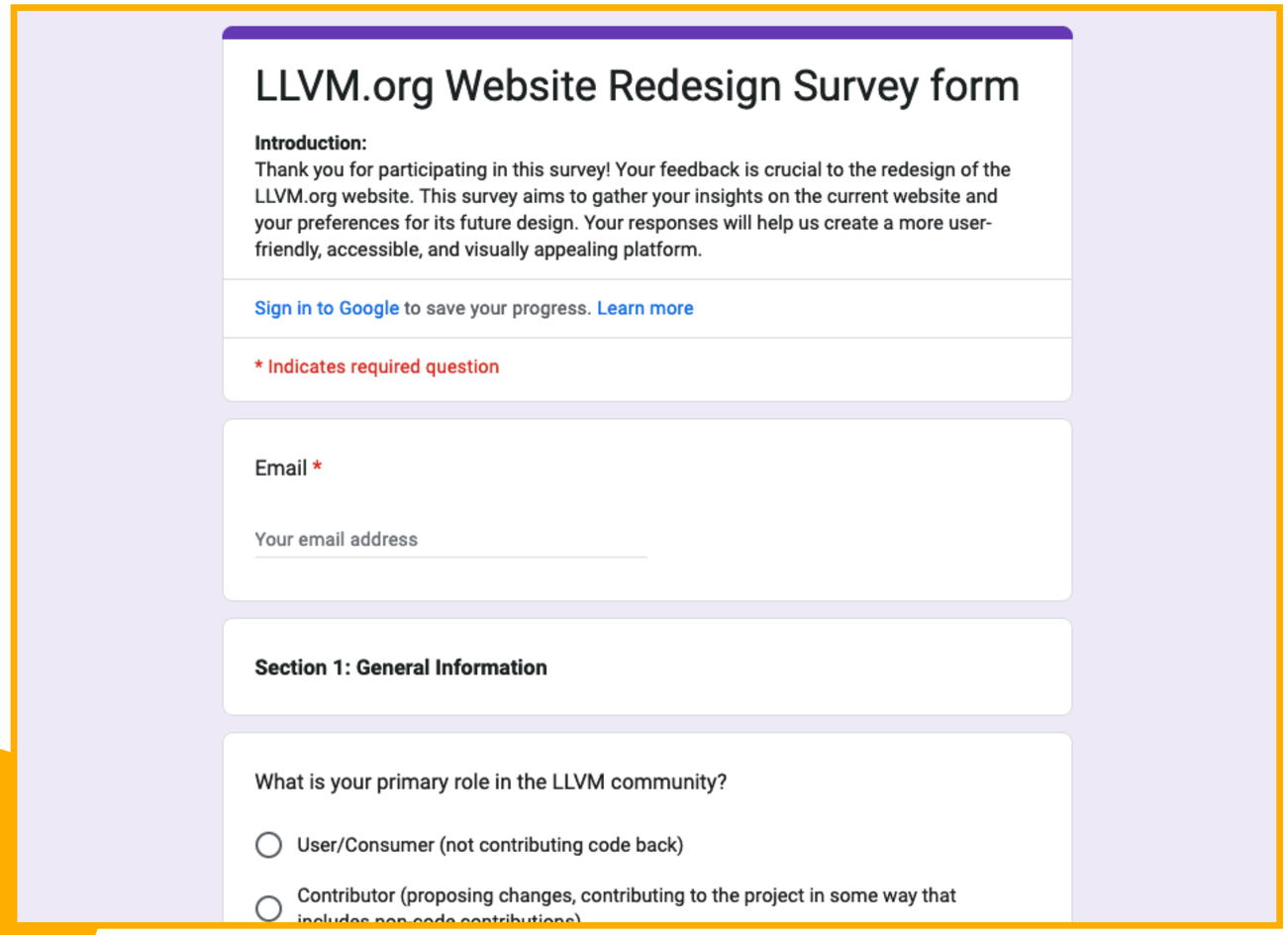
Survey on Current Website



Screenshot of Survey form

Content Audit

Survey on Current Website



LLVM.org Website Redesign Survey form

Introduction:
Thank you for participating in this survey! Your feedback is crucial to the redesign of the LLVM.org website. This survey aims to gather your insights on the current website and your preferences for its future design. Your responses will help us create a more user-friendly, accessible, and visually appealing platform.

Sign in to Google to save your progress. Learn more

* Indicates required question

Email *

Your email address

Section 1: General Information

What is your primary role in the LLVM community?

- User/Consumer (not contributing code back)
- Contributor (proposing changes, contributing to the project in some way that includes non-code contributions)

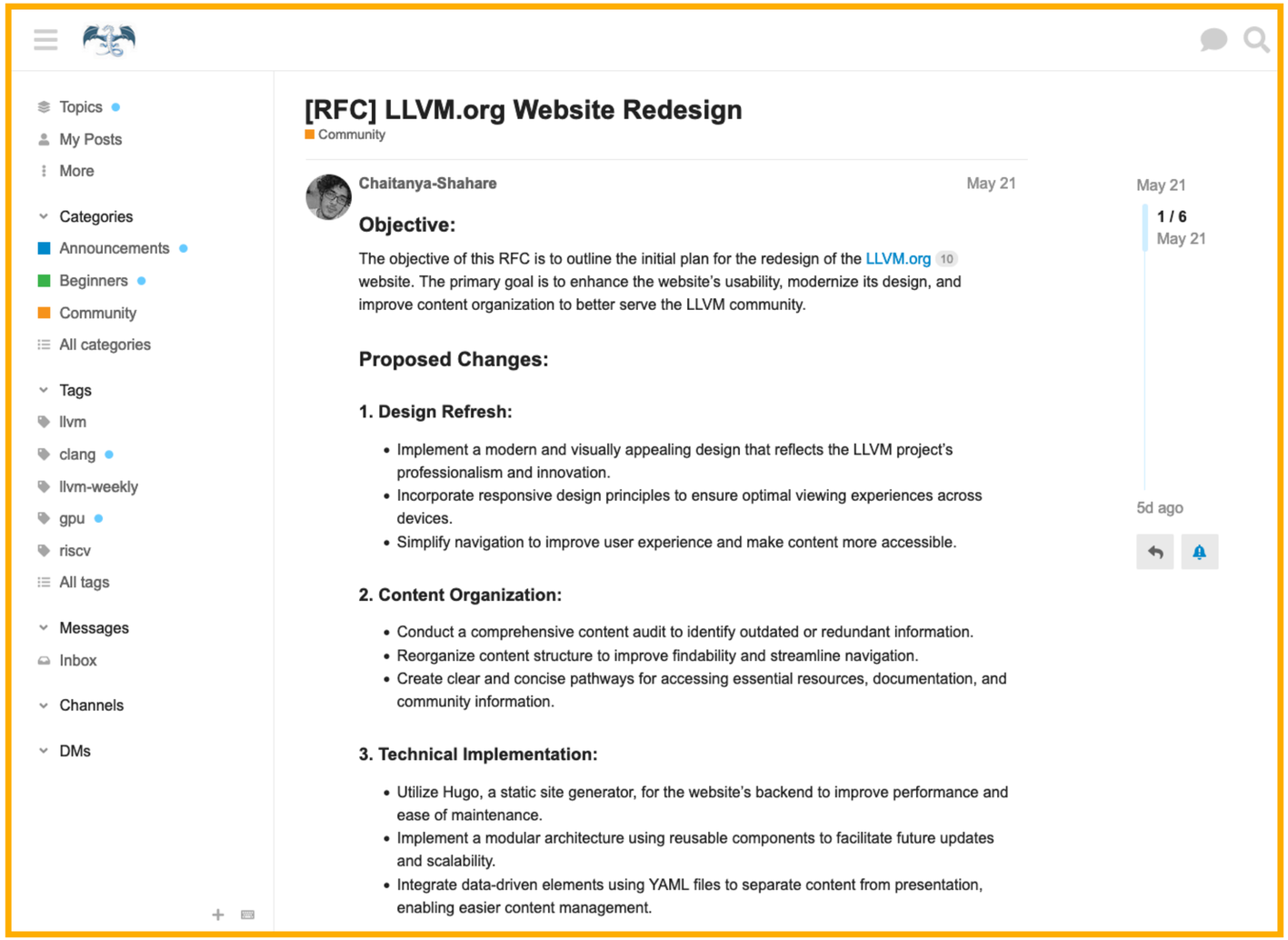
Screenshot of Survey form

- Key pain points
- Use case insights
- Starting point

RFC for Community

Content Audit

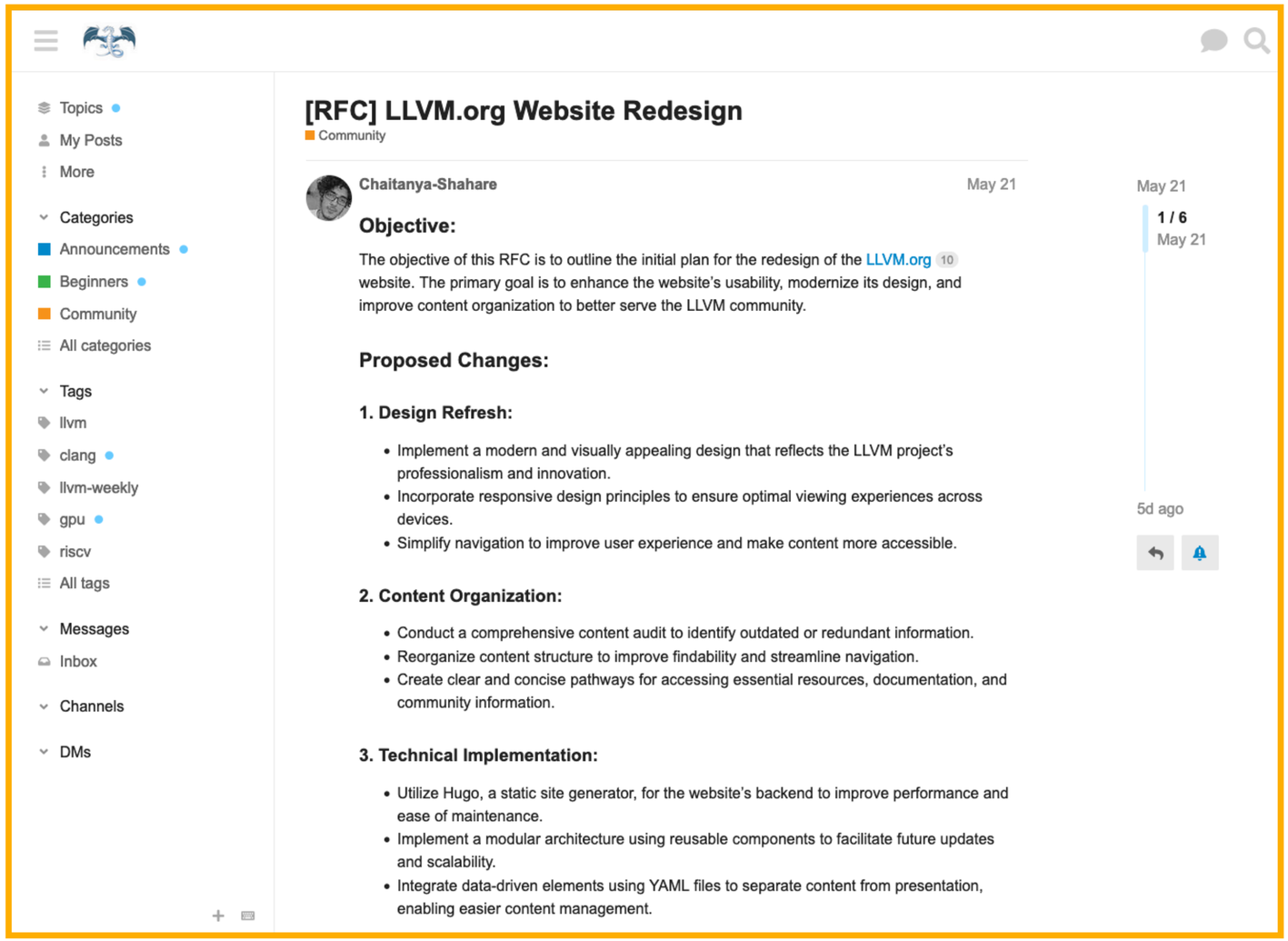
RFC For Community



Screenshot of RFC

Content Audit

RFC For Community



Screenshot of RFC

- Community Feedback
- Increased Engagement
- Identified Key Priorities

Designing Mockups

Designing Mockups

- Visualizing Ideas

- Identifying Improvements

- Facilitating Feedback

Screenshot of 1st Design Mockup

The LLVM Compiler Infrastructure

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Releases

Get Started

What is LLVM?

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Sub Projects

LLVM Core

The LLVM Core libraries provide a modern source- and target-independent optimizer, along with code generation support for many popular CPUs (as well as some less

Read more

Clang

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Read more

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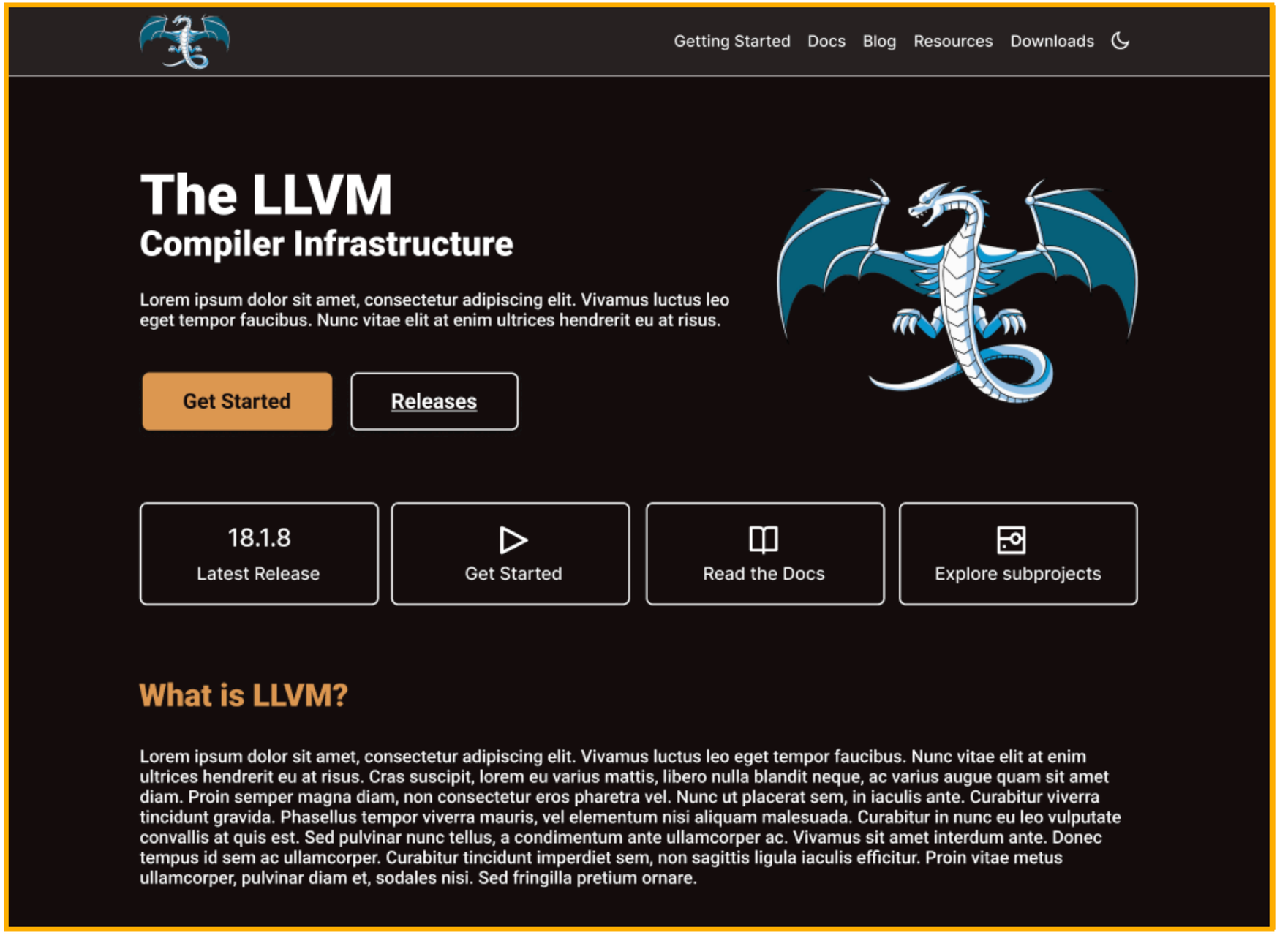
Discourse Forum **Discord** **Developer Meetings** **IRC Channel**



Screenshot of 2nd Design Mockup

Getting Started Docs Blog Resources Downloads

The LLVM
Compiler Infrastructure

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Get Started | Releases

18.1.8			
Latest Release	Get Started	Read the Docs	Explore subprojects

What is LLVM?

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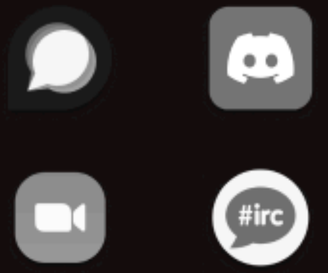
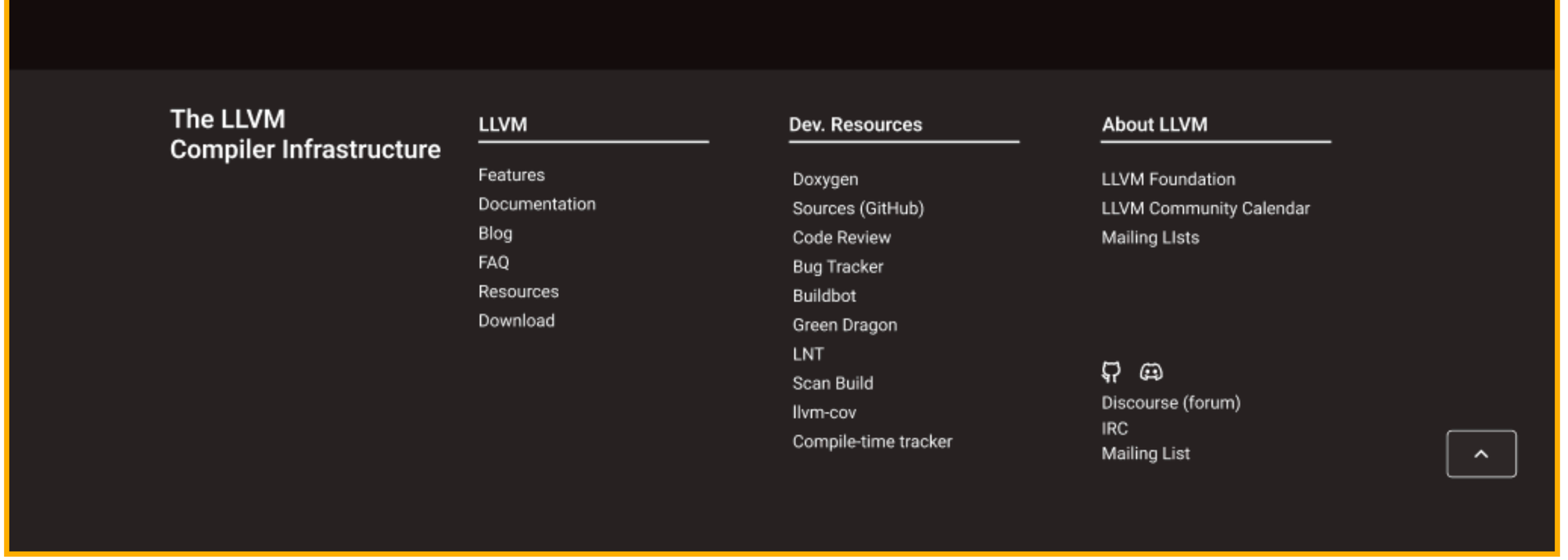


Resources

- Doxygen
- Sources (GitHub)
- Code Review
- Bug Tracker
- Buildbot
- Green Dragon
- LNT
- Scan Build
- llvm-cov
- Compile time tracker

Upcoming Events

- April 9-11, 2024 - EuroLLVM Dev Mtg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LLVM Community Calendar
Mailing LIsts
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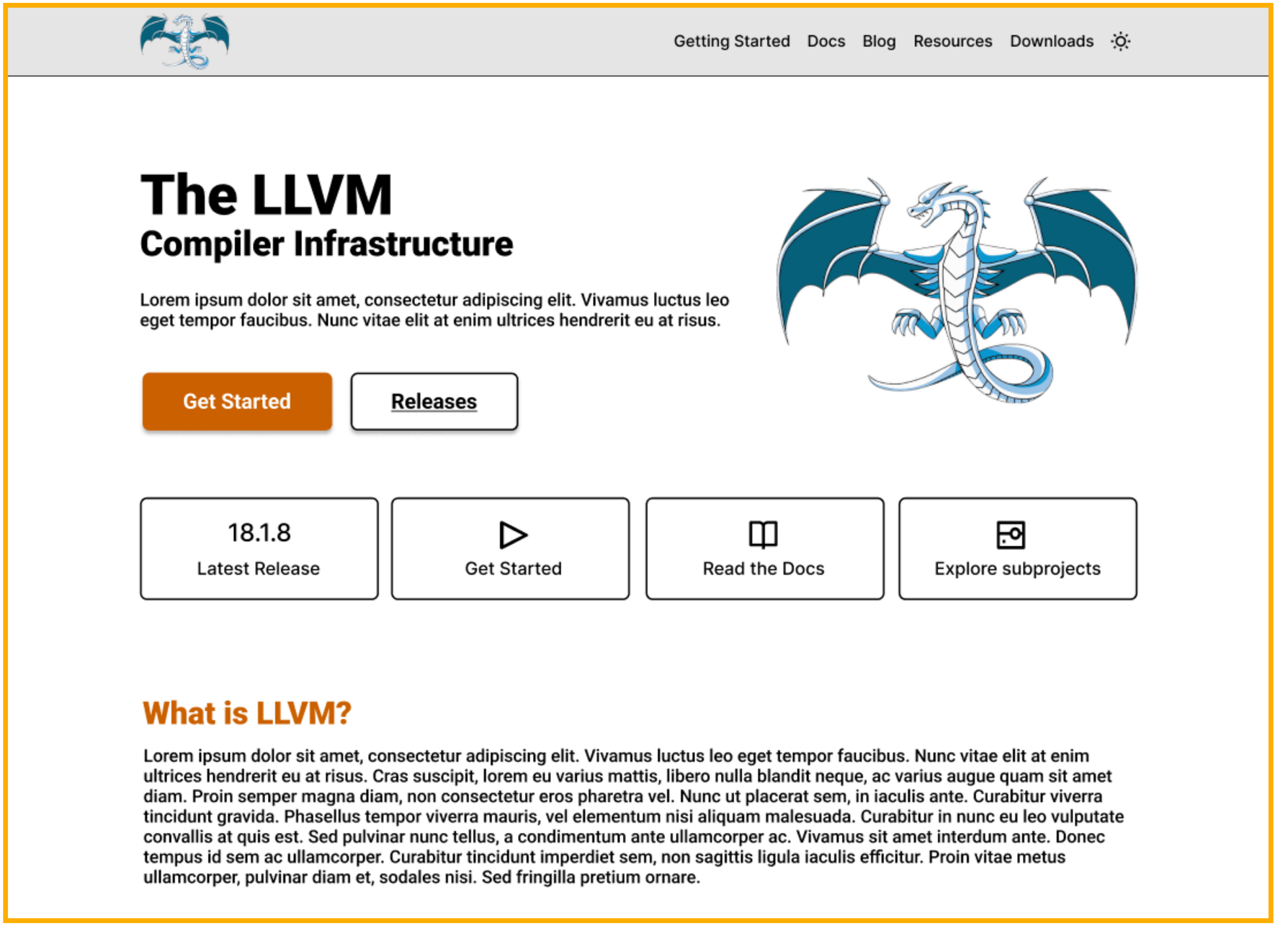

Screenshot of 3rd Design Mockup

The LLVM
Compiler Infrastructure

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Get Started | Releases

18.1.8
Latest Release

Get Started

Read the Docs

Explore subprojects

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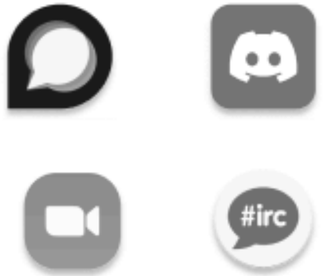

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Feedback on the Designs

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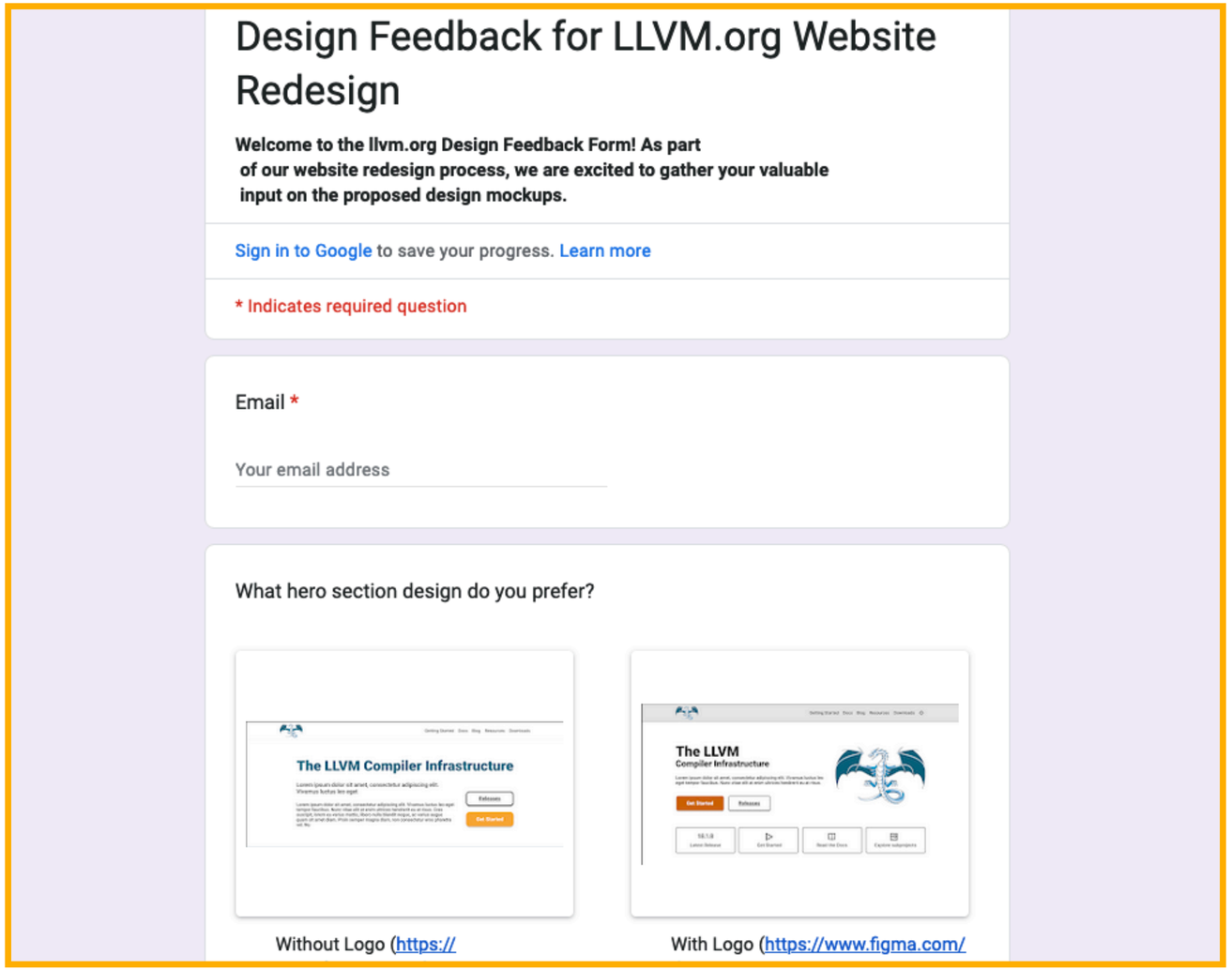
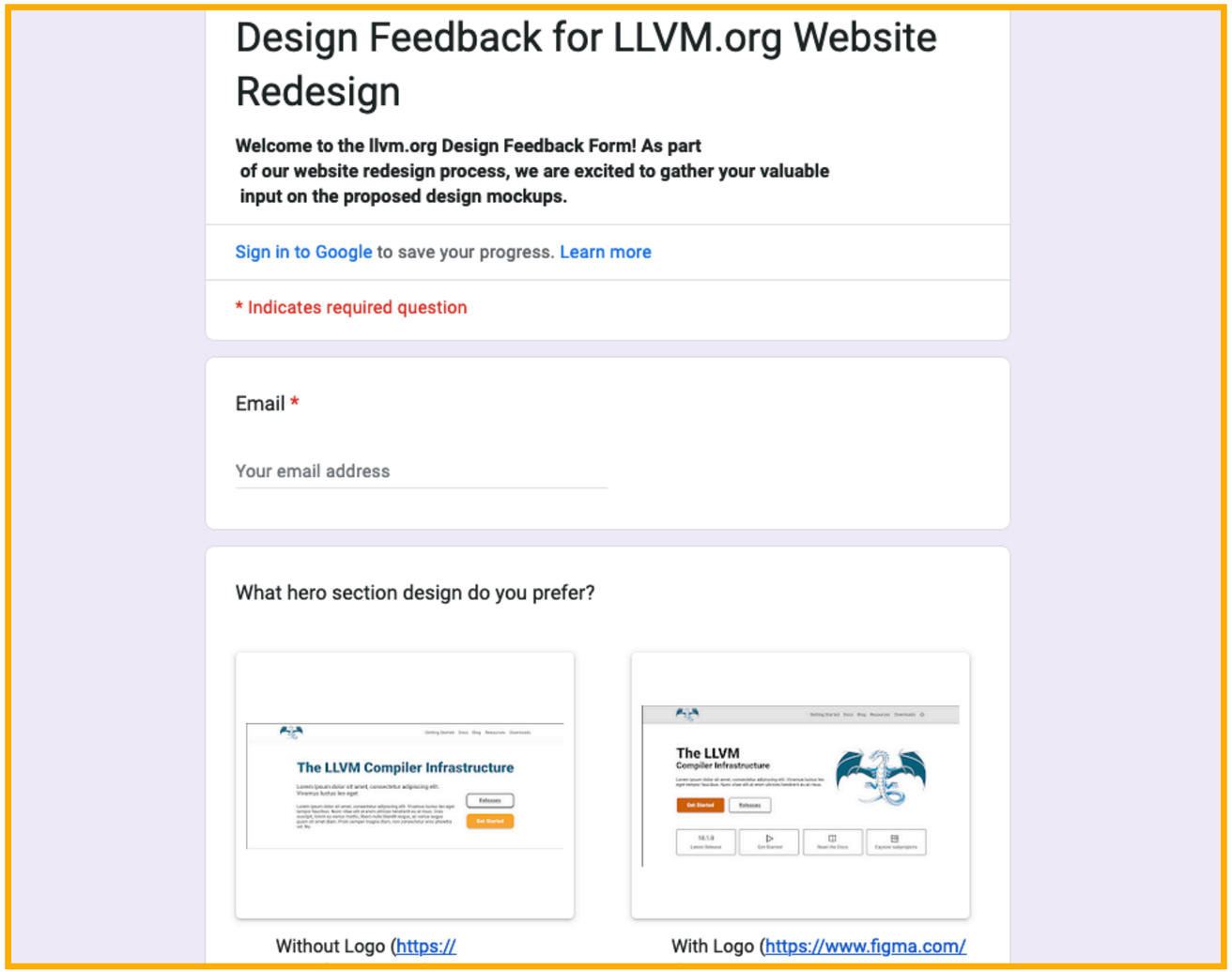


Screenshot of feedback form

Feedback on Designs



Screenshot of feedback form

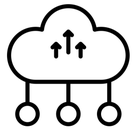
- Gathering User Insights
- Informed Iteration
- Consensus Building

Next Steps

Next Steps

- Iterate on designs

- Implement using HUGO



- Deployment & Hosting

Conclusion

Conclusion

- Enhance User Experience

- Increase Engagement

- Simplified Content Management

Thank You!