Audacity

From

Objective

It is an easy-to-use, multi-track audio editor and recorder for Windows, macOS, GNU/Linux and other OS.

Architectural patterns/styles

Layered pattern

3 Quality Attribute scenarios

Usability

Source: End user

Stimulus: Open audio file

Artifact: System

Environment: Runtime

Response: A GUI displays audio waveforms

Response Measure: User's goal is accomplished in a few second

Modifiability

Source: Developer

Stimulus: Make change component

Artifact: Components

Environment: Design time

Response: Modification is made with no side effects

Response Measure: complexity of affected artifacts is low easy to make change

Performance

Source: User

Stimulus: Add real-time effects

Artifact: System

Environment: Normal Operation

Response: Rendering of audio effects

Response Measure: Time to render in real-time

Mathplotlib

From

https://www.researchgate.net/publication/234238535_matplotlib_--_A_Portable_Python_Plotting_Package

[The Architecture of Open Source Applications (Volume 2): matplotlib (aosabook.org)](https://aosabook.org)

[Data Visualization with Python — Matplotlib Architecture | by Vin Busquet | DataDrivenInvestor](https://datadriveninvestor.com)

Objective

matplotlib is a portable 2D plotting and imaging package aimed primarily at visualization of scientific, engineering, and financial data. matplotlib can be used interactively from the Python shell, called from python scripts, or embedded in a GUI application.

Architectural patterns/styles

Layered pattern

3 Quality Attribute scenarios

Usability

Source: End user

Stimulus: Enter plot script

Artifact: System

Environment: Runtime

Response: A graph is displayed

Response Measure: User's goal is accomplished in a few second

Testability

Source: Unit tester

Stimulus: Validate system function

Artifact: A unit of code

Environment: Development time

Response: Perform a test sequence

Response Measure: Detect fault of system function

Performance

Source: User

Stimulus: Want to plot normal distribution of 20,000 random numbers

Artifact: System

Environment: Normal mode

Response: Graph rendered

Response Measure: Rendering in a few second

Yesod

From

[Yesod Web Framework for Haskell](#)

[The Architecture of Open Source Applications (Volume 2): Yesod (aosabook.org)](#)

Objective

To make your code as concise as possible. As much as possible, every line of your code is checked for correctness at compile time. Instead of requiring large libraries of unit tests to test basic properties, the compiler does it all for you. Under the surface, Yesod uses as many advanced performance techniques as we can muster to make your high-level code fly.

Architectural patterns/styles

Model-View-Controller (MVC)

3 Quality Attribute scenarios

Usability

Source: End user

Stimulus: Enter command line

Artifact: Command line interface

Environment: Runtime

Response: Easily to read/write code

Response Measure: Satisfied user

Modifiability

Source: Developer

Stimulus: Add new functionality

Artifact: Code

Environment: Compile time

Response: Check for correctness

Response Measure: Detect fault section of code

Performance

Source: End user

Stimulus: Initiate 64,000 requests in 1 second

Artifact: System

Environment: Normal operations

Response: Processes all requests

Response Measure: Low performance impact