

PlanungsDoc

Introduction

This Document describes the current state of planning for the PG

The User is supposed to be able to use this software to write or type notes and interact with the scene in various ways.

Optimization in such application is important to enable usage in lower end devices and save battery resources on mobile devices.

These papers [1] [2] [3] [4] present 4 different approaches to render vector graphics on modern gpus.

kurze Zusammenfassung zu den Papern

Goals

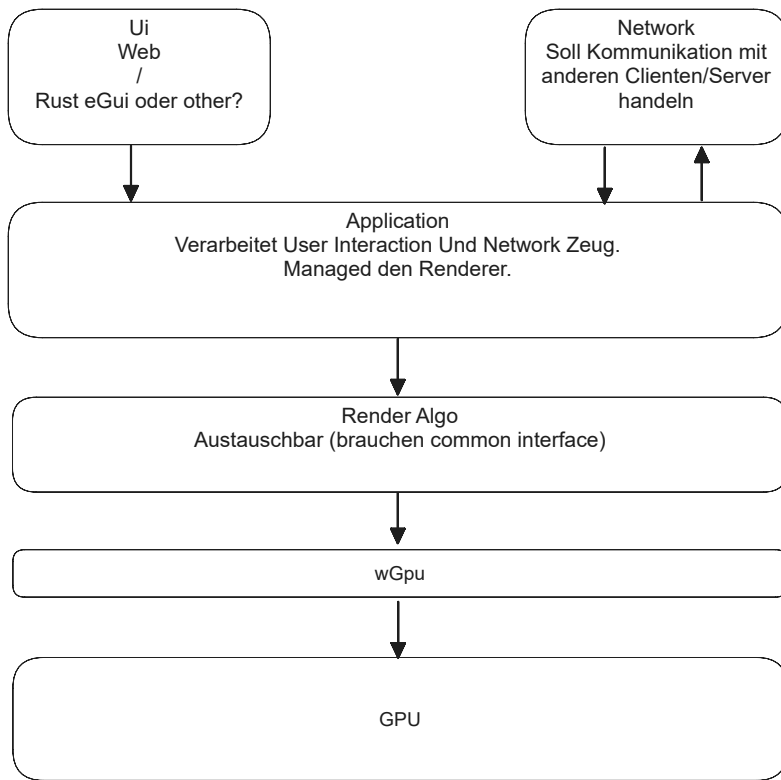
The main goal is to create a system that can be used to create notes. With a focus on different Rendering algos. The algos should be easily swappable to enable comparative benchmarks. The software should be platform independent to enable use on different desktops as well as mobile devices and the web. Additionally only open source will be used. The ability to create notes online with other people should also be included.

Possible Features

- Render svg paths
- Renderer should be swappable
- User Interaction
 - Drawing by Hand/Pen or draw shapes or import PDF
 - Type text
 - Manipulate current drawing (pan, zoom, select, move stokes, delete parts)
- Use Pdf as Background
- Export
- Network
- Benchmarks
 - sysnthetic + realistic
- Multiple Algos to compare (At least one)

Architecture

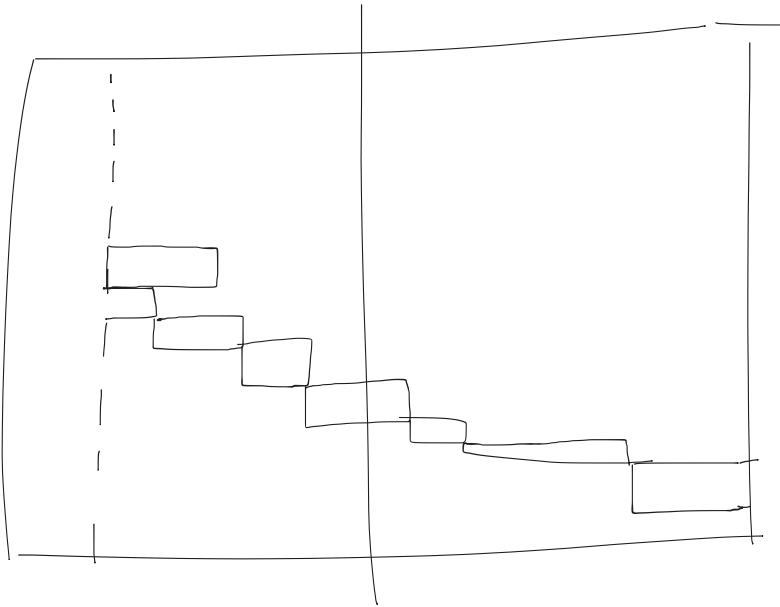
Here is a rough overview of the planned architecture.



Tasks/Milestones

Most of the Tasks are going to be implementation. Initially mostly small experiments to get experience with the various libraries.

- Paper Presentations
- Reading and Experimentation
- Implementation Plan
- Implementation
- Erster Rendering algo
- Simple Ui
-
- Prepare Final Presentation
- Final Presentation



[Placeholder]

Libraries

Here is a selection of libraries that we will use.

wgpu

Is a library that enables

To enable the different Algorithms to access the Gpu in a platform independent way.

winit

Can create windows on various different platforms. Also provides an Event loop.

It also exposes a surface that can be used by wgpu and be drawn on by the algorithms.

eGui or some other Gui stuff

Can create an User Interface in immediate mode. May or may not be used depending on future decisions.