1. Introduction

2. Compilation on Windows

- Install Visual Studio from `https://visualstudio.microsoft.com/downloads/`

- Install VCPKG from `https://vcpkg.io/en/getting-started.html`

- Add VCPKG folder to PATH:

- Option 1: Command Line tools

```
1    REM Assuming that VCPKG cloned and bootstrapped in c:\src\vcpkg
2    REM setx for the global environment, set for the local
3    setx PATH c:\src\vcpkg;%PATH%
4    set  PATH c:\src\vcpkg;%PATH%
```

- Option 2: PowerShell

```
1    # Assuming that VCPKG cloned and bootstrapped in c:\src\vcpkg
2    [Environment]::SetEnvironmentVariable("PATH", "c:\src\vcpkg;${PATH}", "Machine")
3        Set-Item -Path Env:PATH -Value "c:\src\vcpkg;${PATH}"
```

- Option 3: Manually in **System Properties** −> **Environment Variables**

- Navigate to the folder with the project

- Run *build.bat*

- Open *build
  EDGSG.sln* in Visual Studio to work with the source code

3. Compilation on Linux

- Install VCPKG from `https://vcpkg.io/en/getting-started.html`

- Add VCPKG folder to System PATH

- Option 1: Temporary local environment

```
1        # Assuming that VCPKG cloned and bootstrapped in ~/vcpkg
2        export PATH="~/vcpkg;${PATH}"
```

- Option 2: Local environment and Bash profile

```
1        # Assuming that VCPKG cloned and bootstrapped in c:\src\vcpkg
2        export PATH="~/vcpkg;${PATH}"
3        echo 'export PATH="~/vcpkg;${PATH}"' >> ~/.bashrc
```

- Navigate to the folder with the project

- Run build.sh

Important Note: the VCPKG requests installation of additional packages
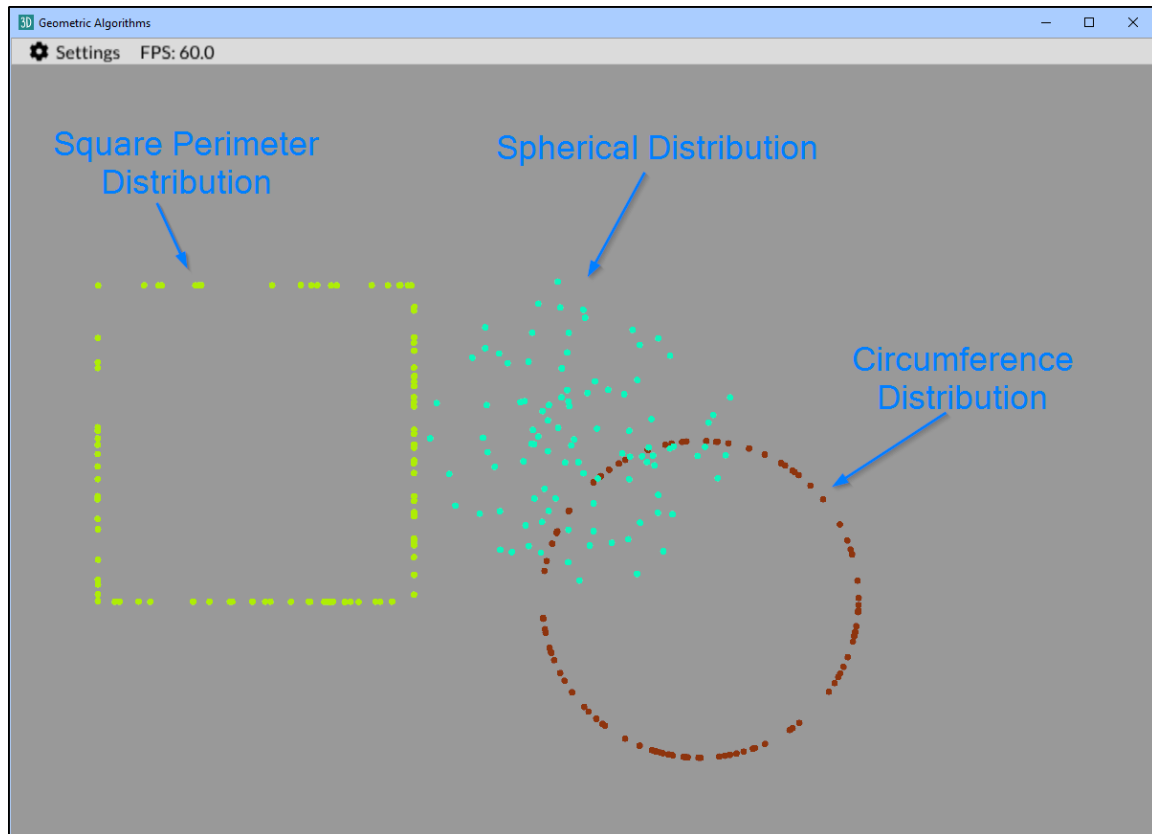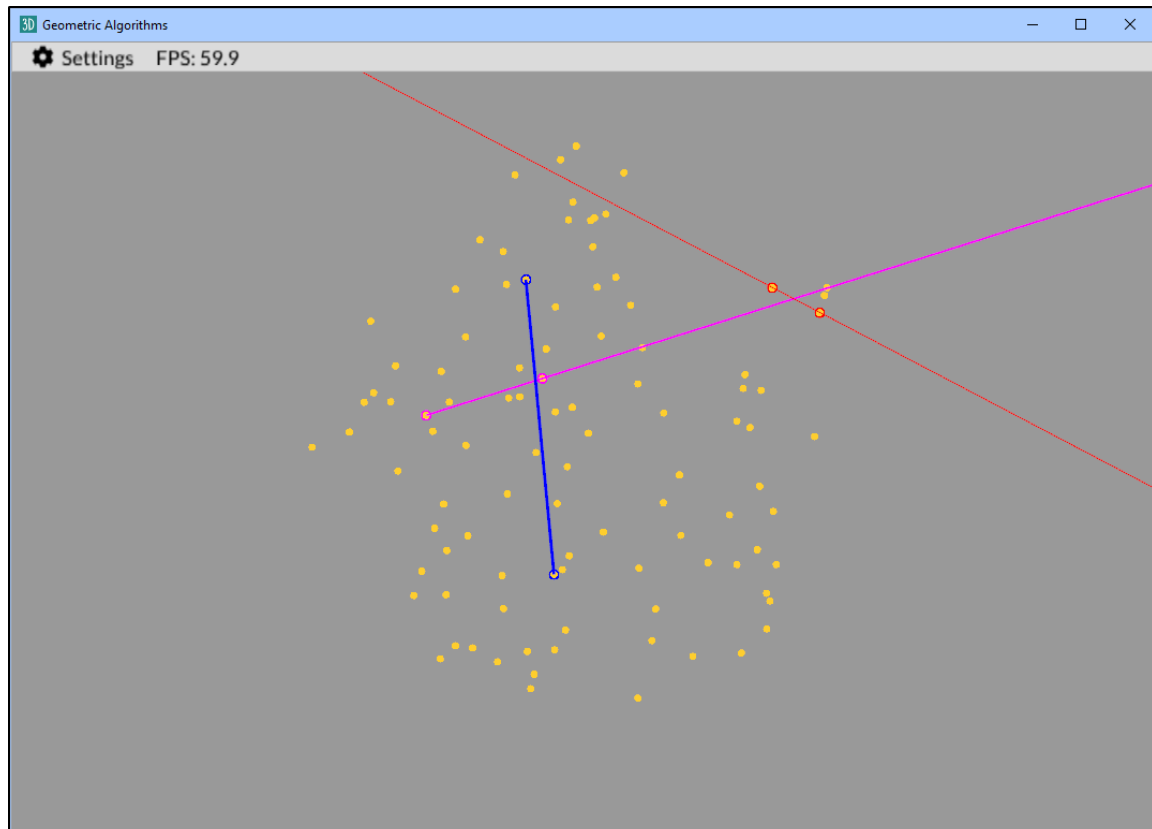
4. Screenshots

Figure 1: Point Clouds.

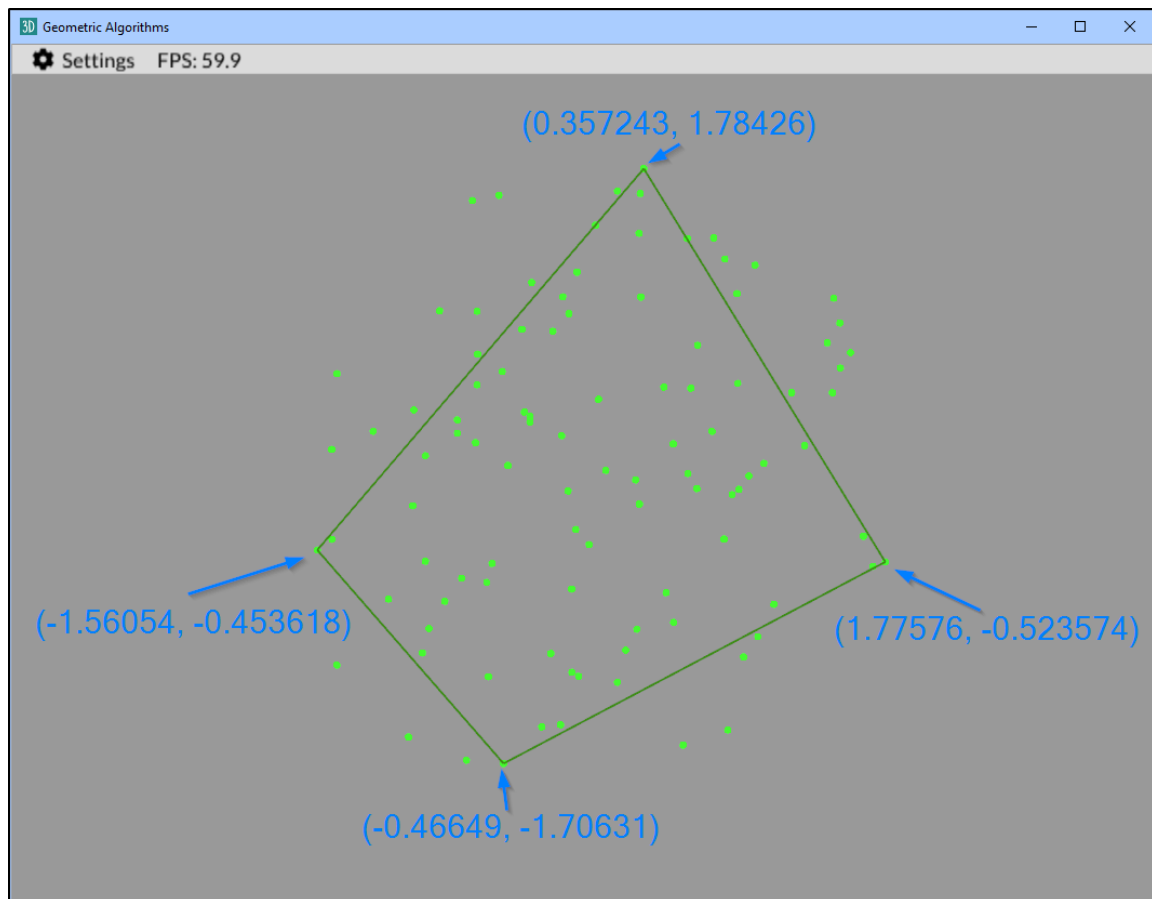Figure 2: Blue Segment, red Line, and magenta Ray.
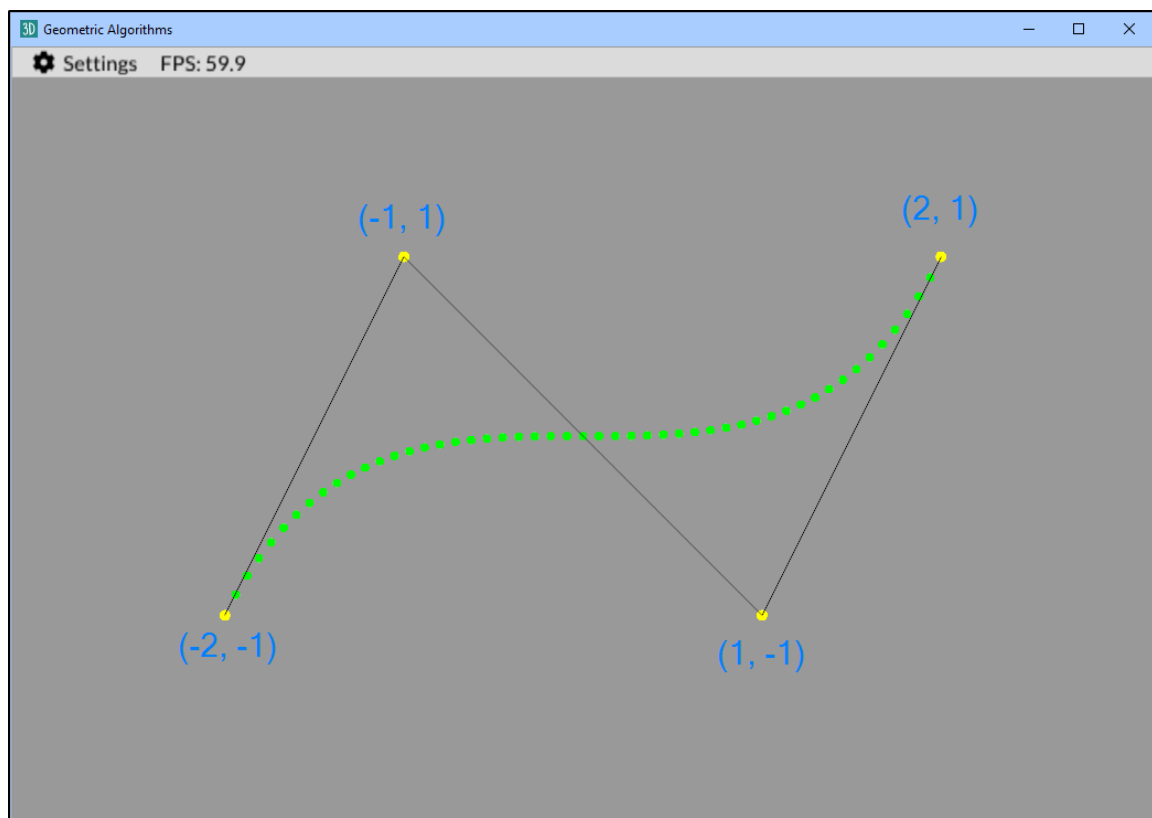
Figure 3: Convex Polygon from 4 points of point cloud.

Figure 4: Bezier Curve.

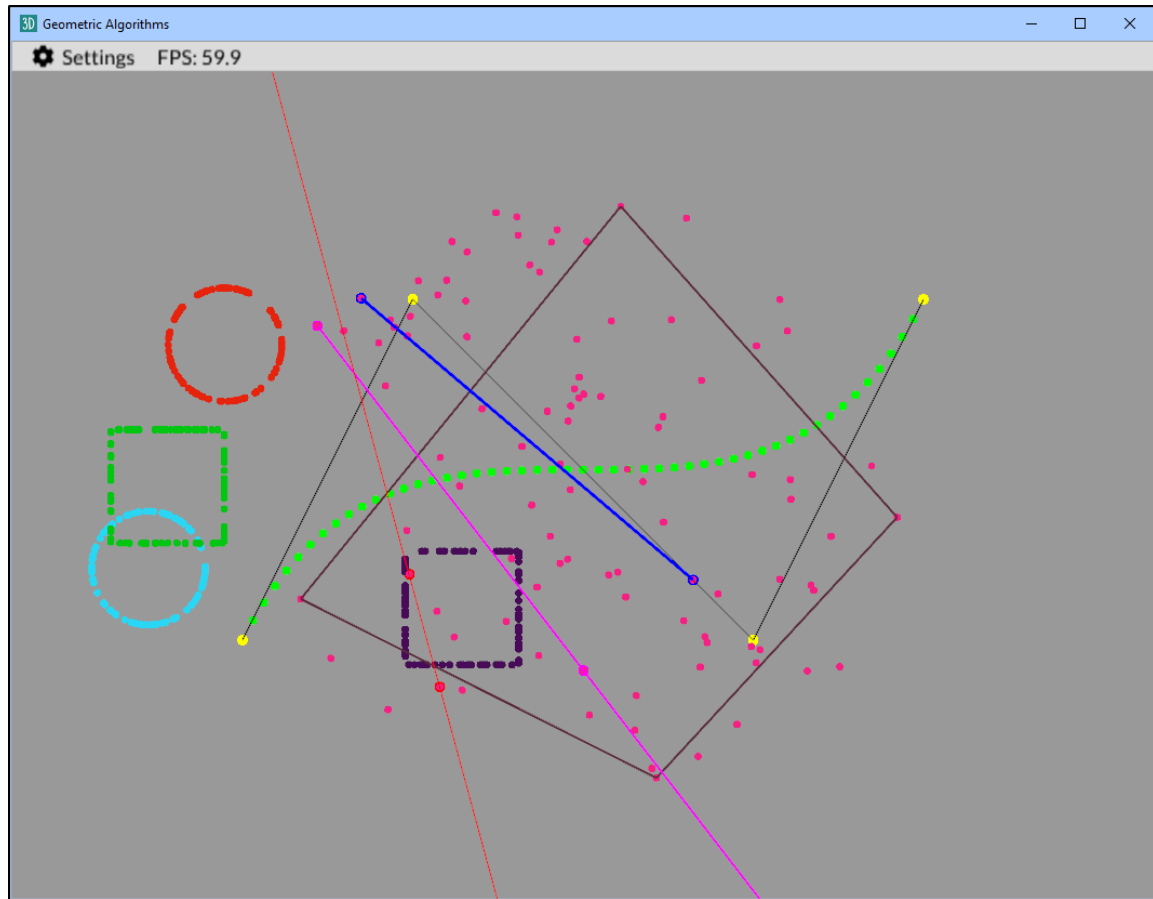Figure 5: All in one.