1. Language and platform

Python is language that because of dynamic typing constantly needs much attention to not to make mistakes. On the other hand, C# is more strict language. With C# it is easier to develop product without many mistakes, C# much faster, because this is compilable language, which makes scaling of project much easier.

2. Architecture

In this case best solution is client-server architecture, where is server managing access for clients, contains all data and process all operations with it and provides a high level of safety for whole system if communications encrypted. As a framework for interface was supposed to be used Godot Engine 4 – free open source solution under MIT License. However, there are occurred undocumented behaviour due testing parts of program that supposed to provide connection through TCP sockets and manage program files. Source of it was not found and much time has been lost, deadline was within a day, so I decided to use much simpler architecture.

There is no server, everything is local. Clients needs to log in again after restarting program, however, it’s remember the path to data. Data can be placed separately from client, client provide all calculations. The problem is syncing work of two clients with same data, also interface has been changed to console. Inside program is simple: there is only two classes. One is main class with starting point of program, it works both as terminal and file manager. Another class is just data container with some methods that can modify it’s own data.

After solving problem with TCP connection current client can be easily turned into server that does not need to sync with similar map instances anymore.