

N-body simulation

Kirushin I., Anisimov V., Bukhanov B., Peshkov A.

Intro

What is our project about?

Making possible to observe
gravitational interaction in
complex systems of bodies



Relevance

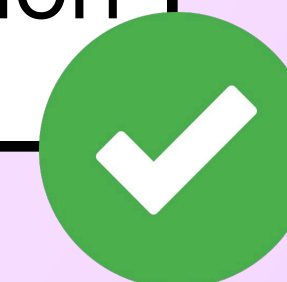
What's wrong with most gravitational simulators?

Too complex or too simplified

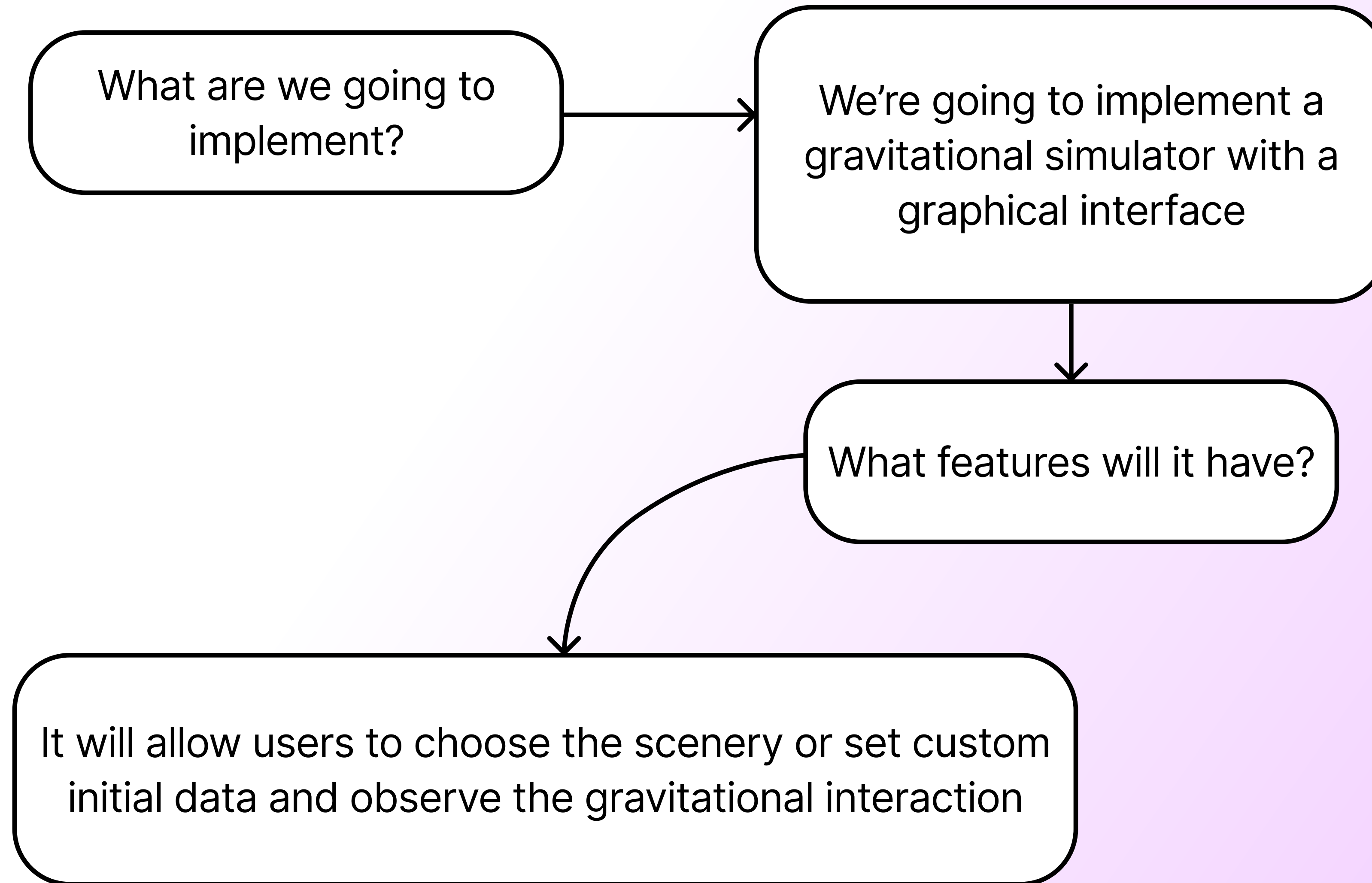


What we suggest

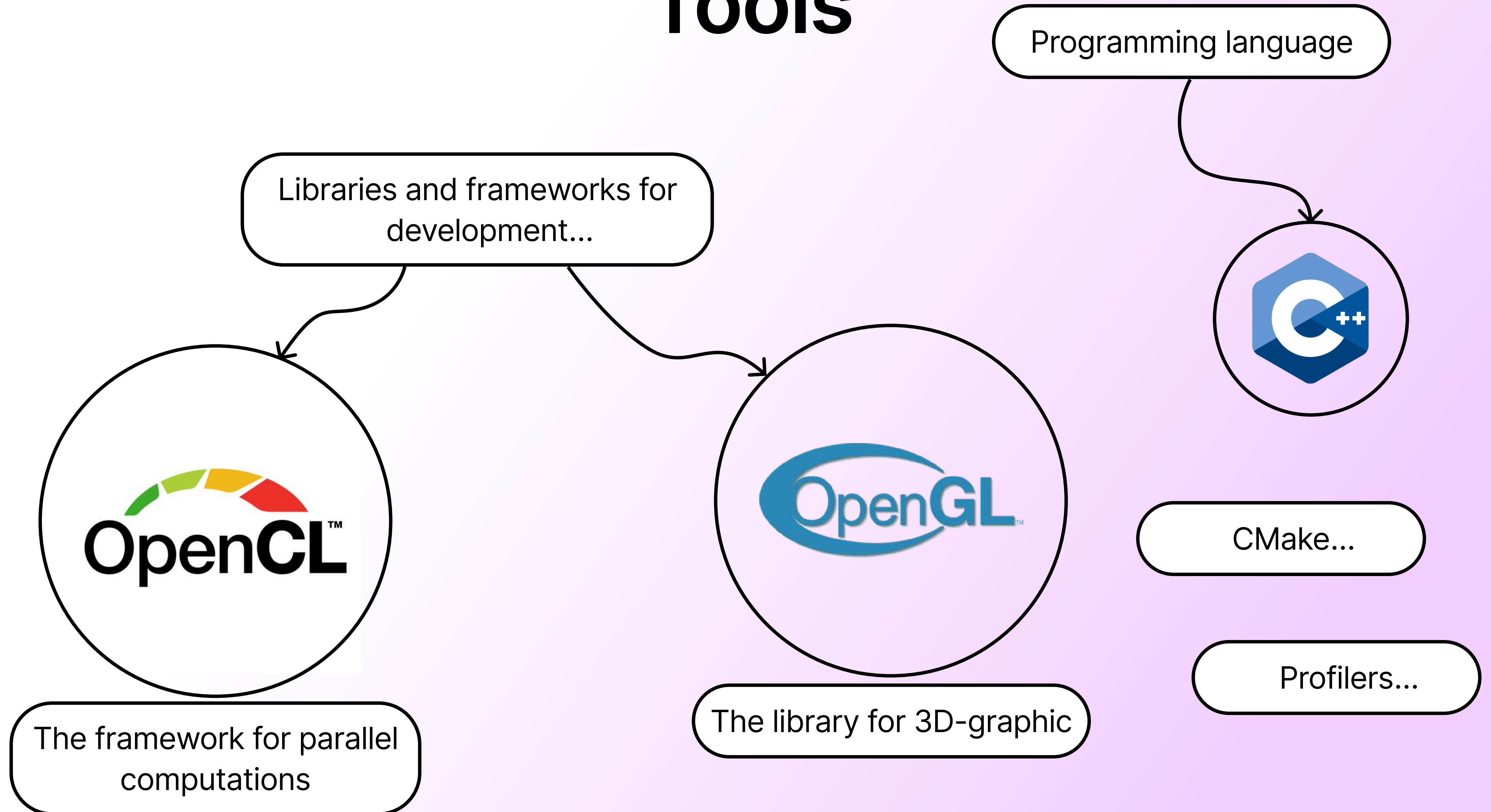
To combine scientific accuracy with user-friendly visualization



Goal



Tools



Time changing

One of the most useful feature in our program will be the ability to change the time interval between events on a screen

It will allow users to see in more detail what's happening at a specific moment...

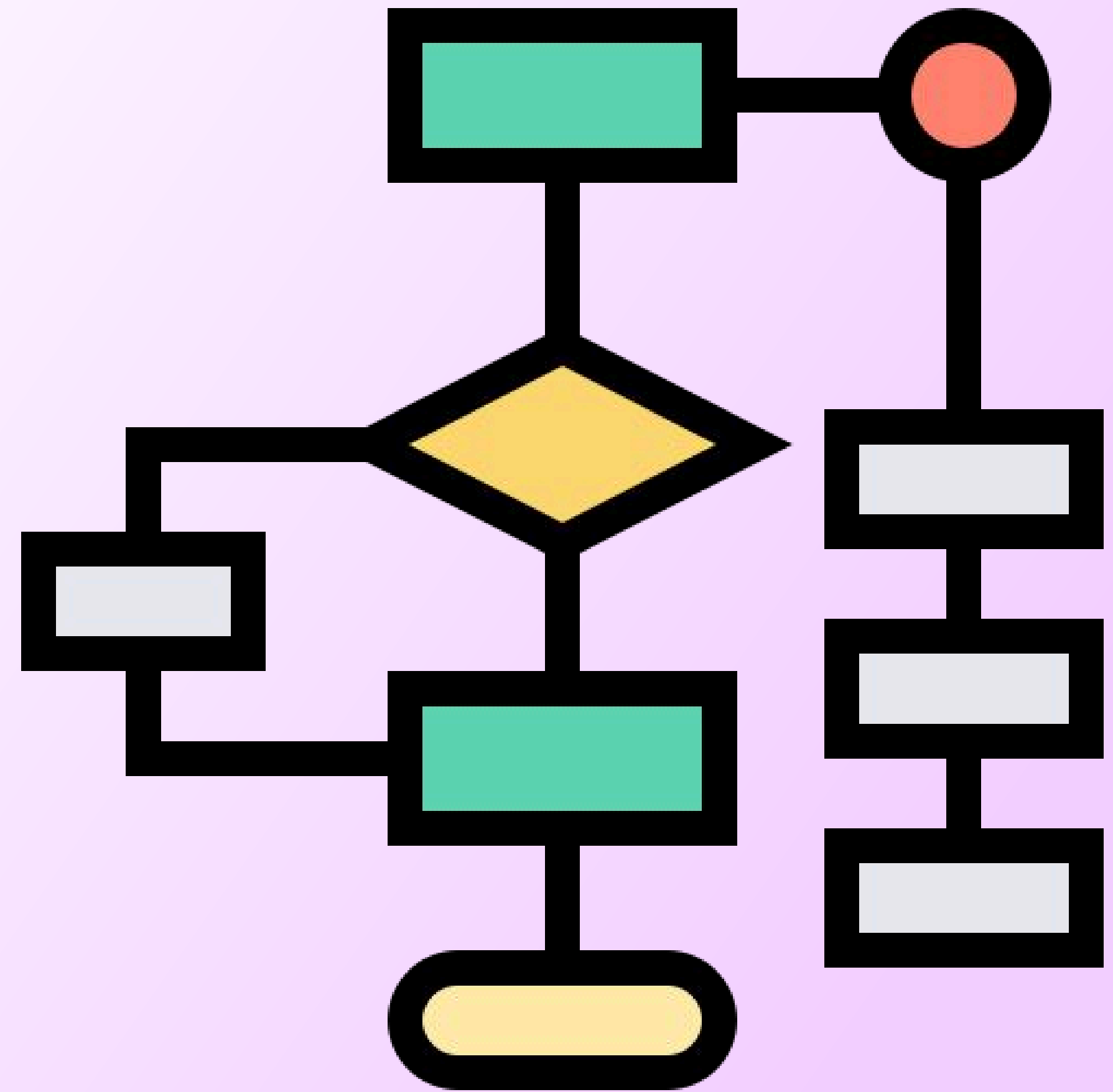


Algorithms

The second main idea is to test different calculating algorithms and compare their time of performing and accuracy...

It will allow us to understand what algorithm is the most suitable for our application...

We're going to use C++ profilers to find out performance on test scenarios...



Parallel computations

The third main task is to implement parallel computations using, for example, OpenCL...

It will allow us to understand what is the maximum amount of objects which interaction we can calculate and show on a screen...

