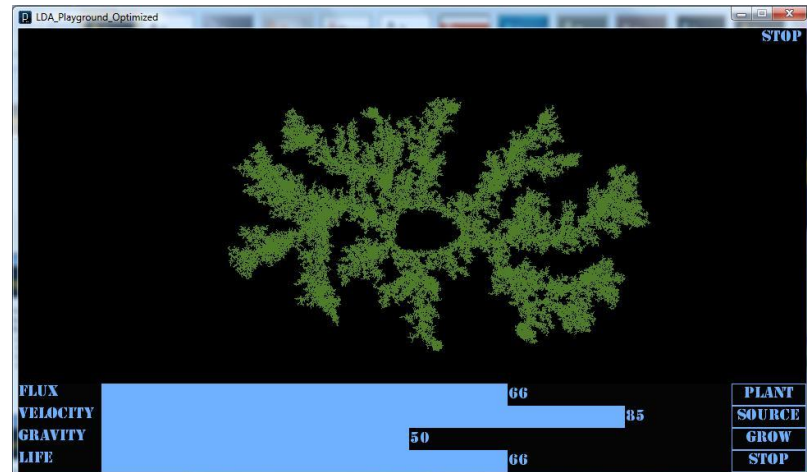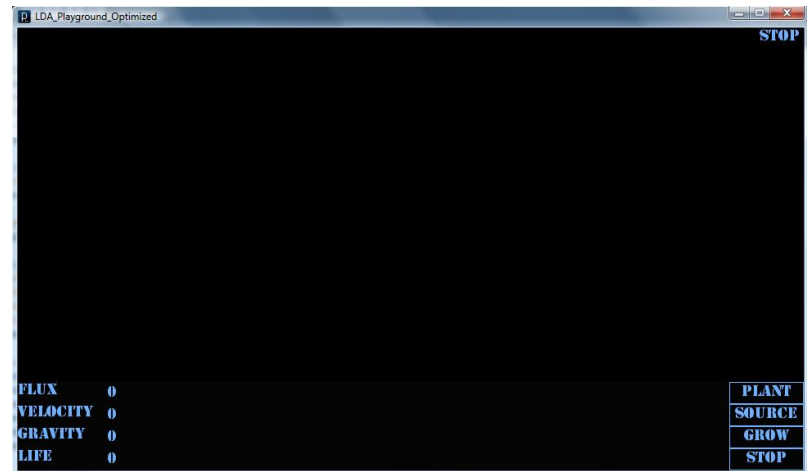Project 2 – Simulation

By: Mehrdad Ghods

DLA PLAYGROUND

What is DLA Playground?

- It is a sketchpad-like environment where you can plant your seeds, put your resources, and simulate growth of your seeds based on the resources.

How it works?

- Click Plant button
- Draw your seeds
- Click Source button
- Choose Resource options
- Draw desired resource
- Click Grow button
- Click Plant button and right click on screen in order to restart
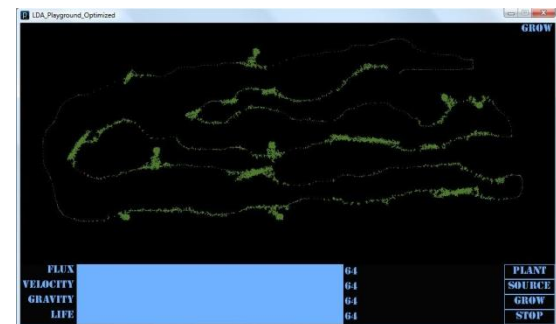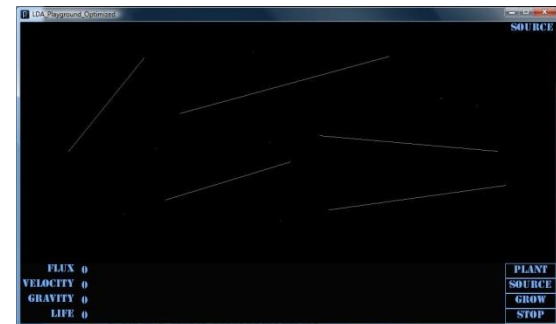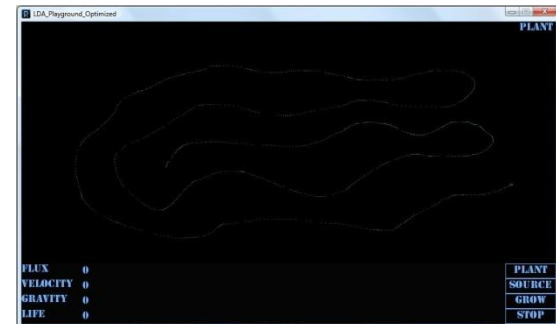
What kind of resources are there?

- There are two kinds of resources:
  - Linear: Click on screen to put first point and drag mouse and release the button to specify second point.
  - Radial: Click on screen.
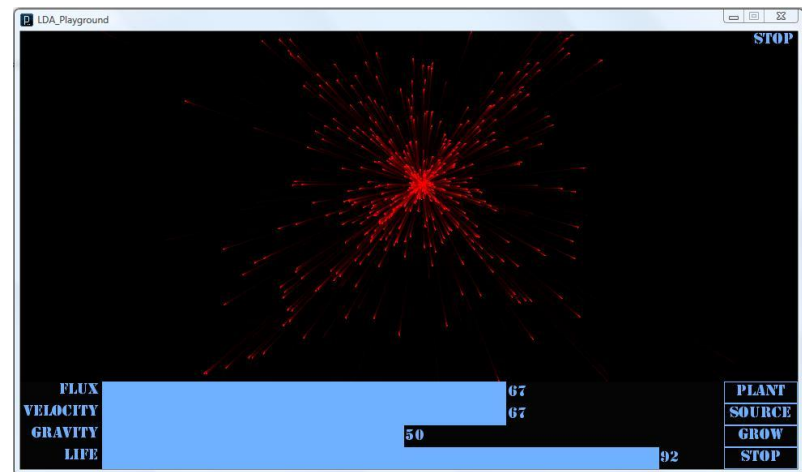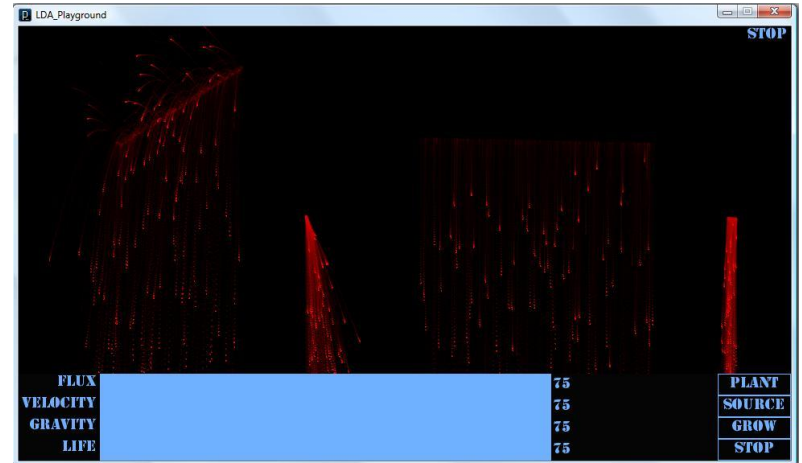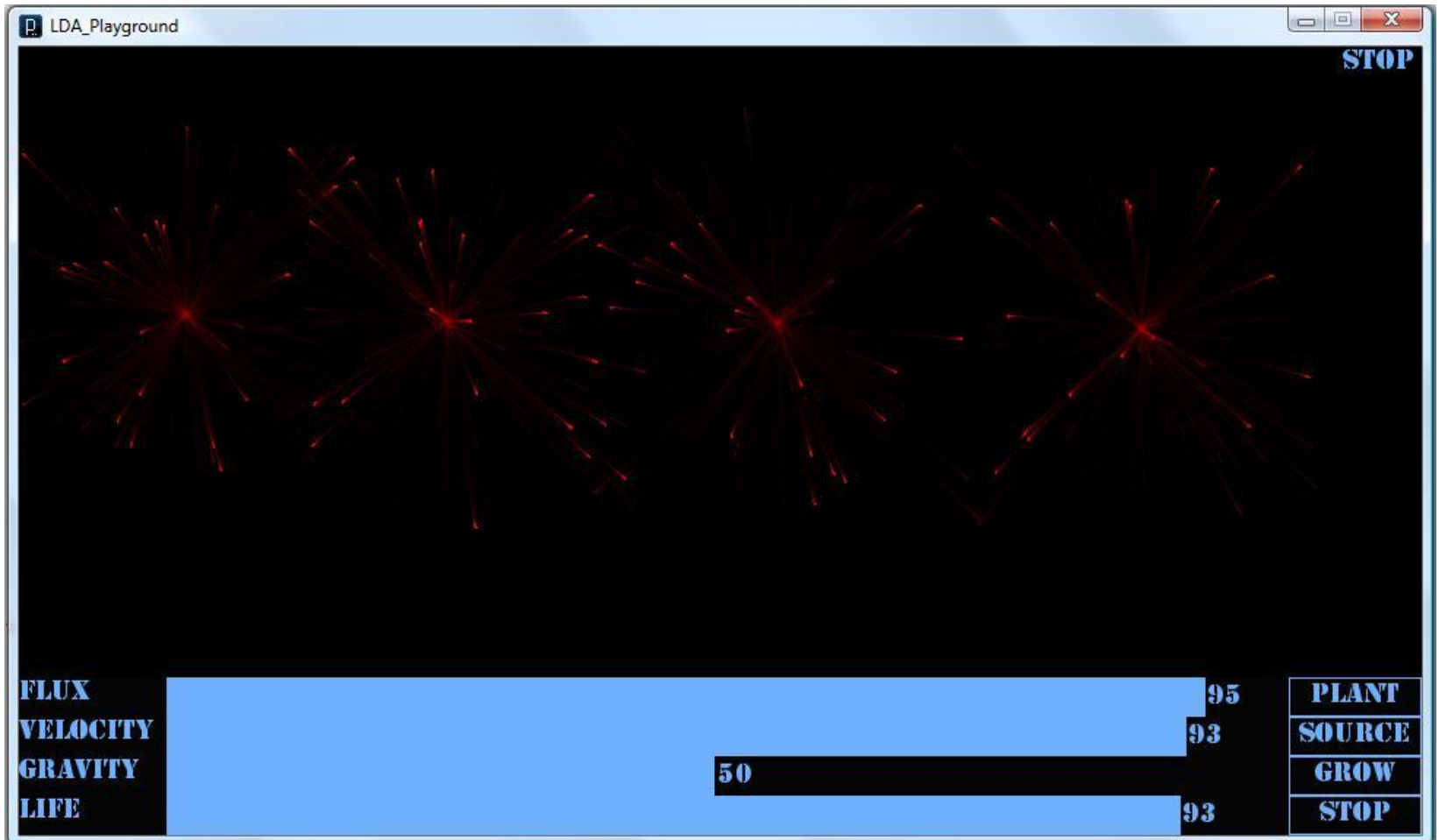
What are resource options?

- Flux: Specify particles released from source on each frame.
- Velocity: Specify minimum velocity of each particle
- Gravity: Specify a range of active gravity for each particle
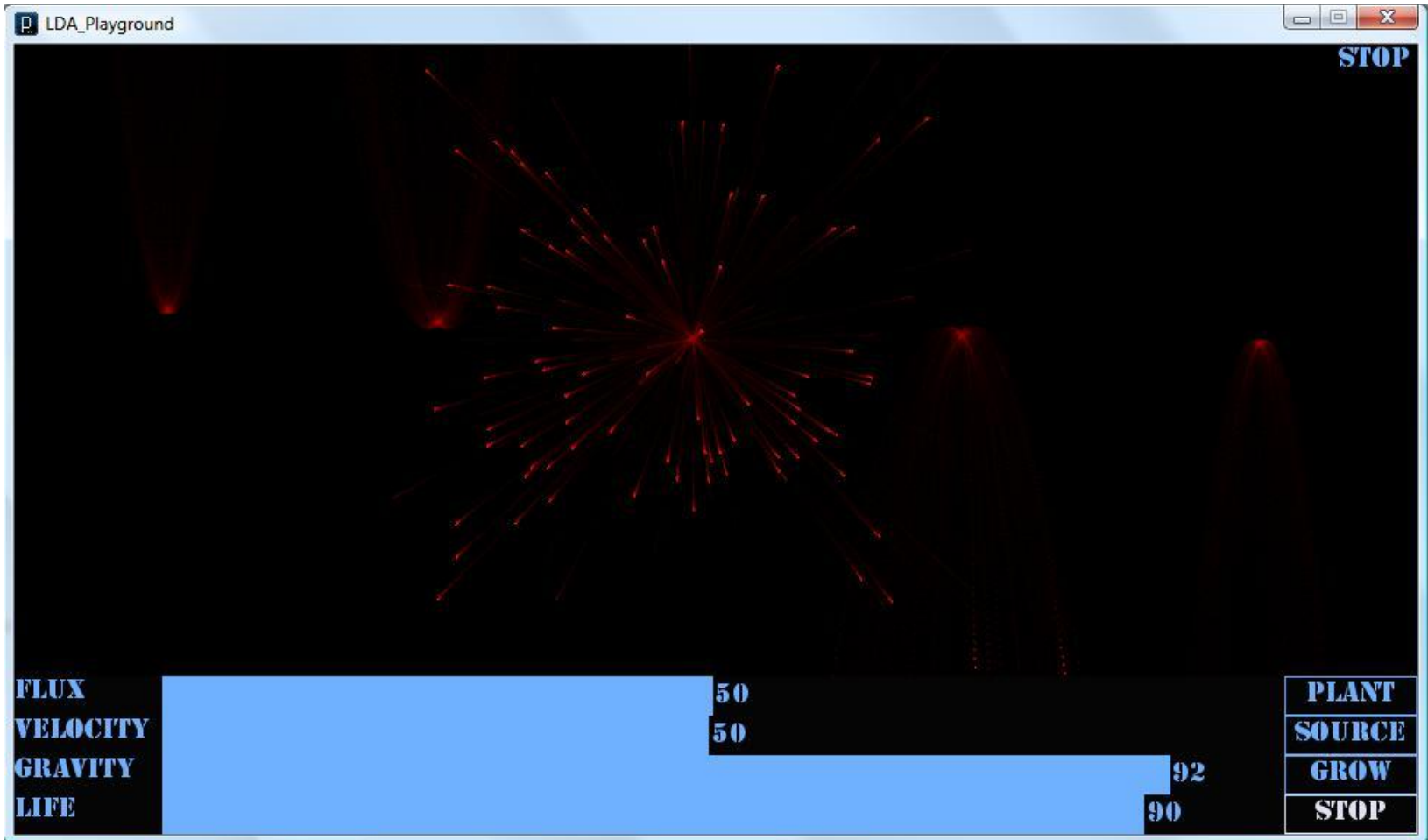- Life: Specify a range of effective life for each particle
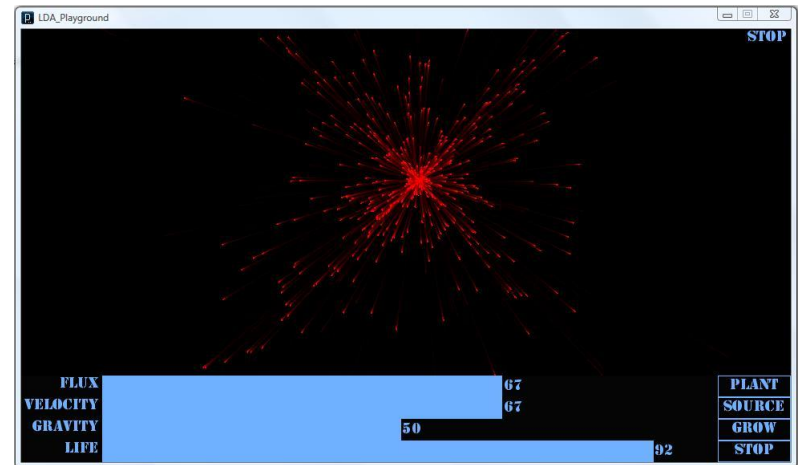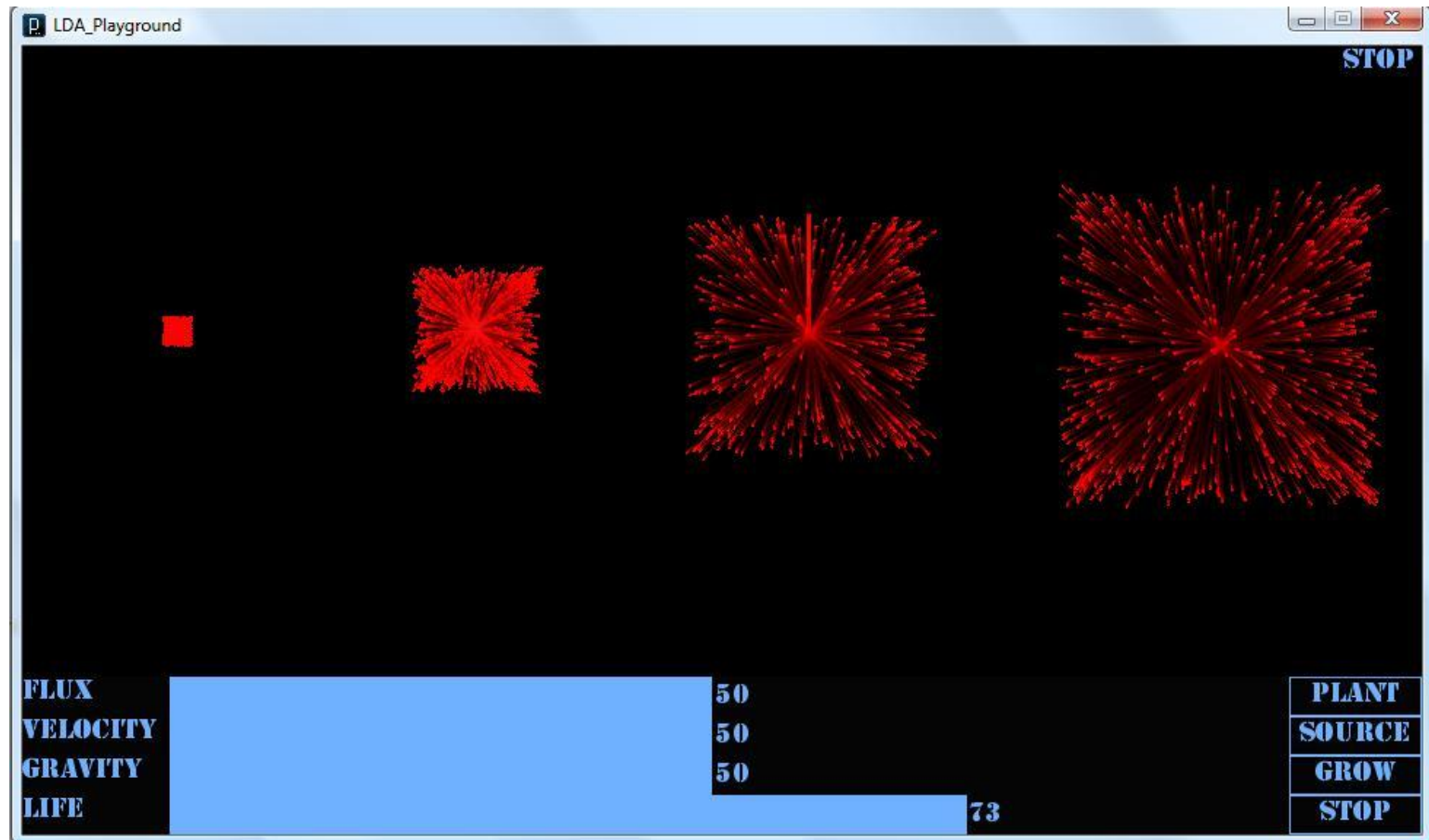
Flux

Velocity

Gravity

Life

Engines

- There are two engine that forms DLA Playground:
  - DLA formation and display engine
  - Resource distribution engine

Versions

- There are three versions of DLA Playground:
  - O(n) : high performance and low quality
  - O(nm): low performance and high quality
  - Resource Exhibit: visualizing resource distribution
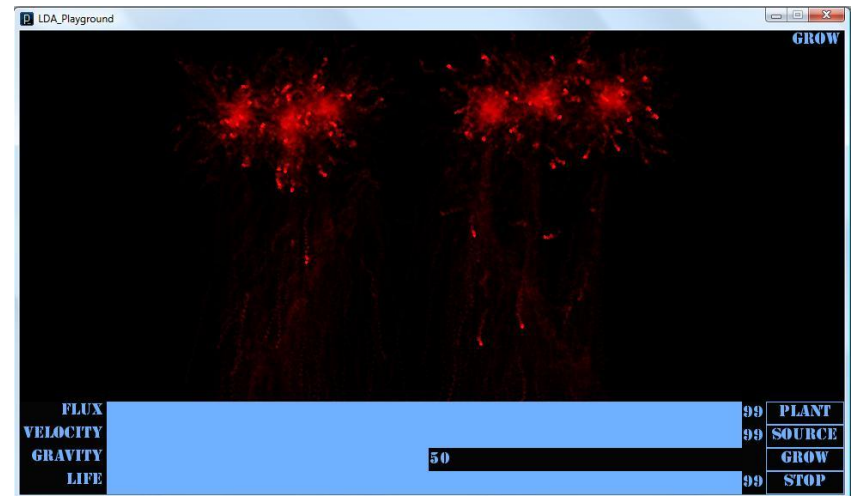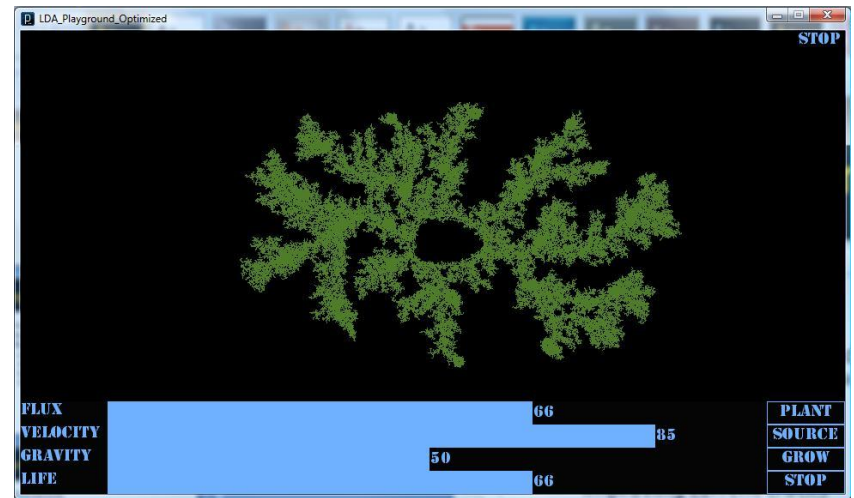
Possible Future Developments

- Short-term:
    - Adding Save Feature
    - Combining screens for seed plantation and source drawing
    - Improving visual effects
    - Adding features to user interface
    - Improving current cracks
- Long-term:
    - Adding auto seeds plantation feature
    - Adding a GA for finding best resource development for specified plantation
    - Adding a GA for finding best plantation for specified resource

Questions and Suggestions?