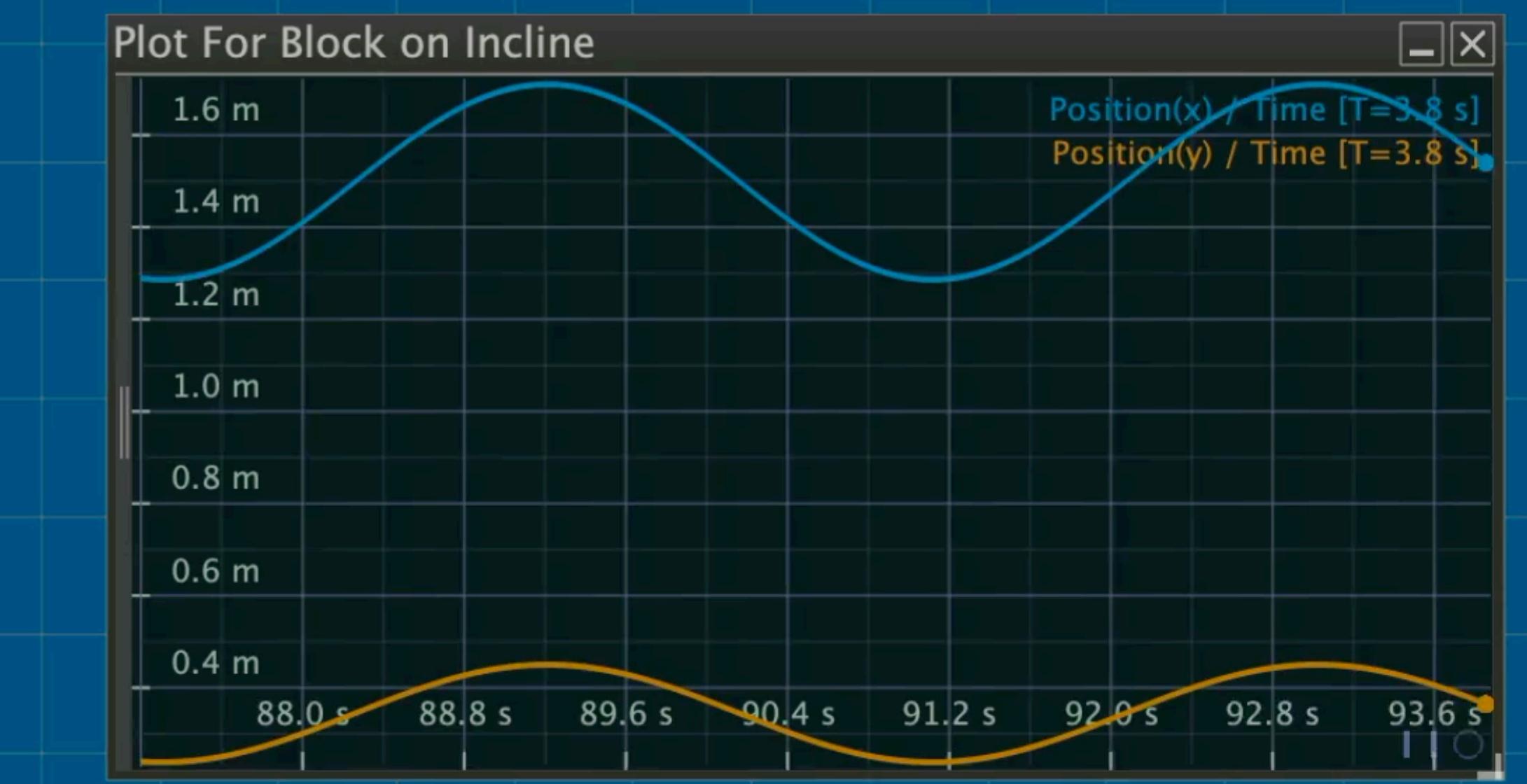


# Simphy

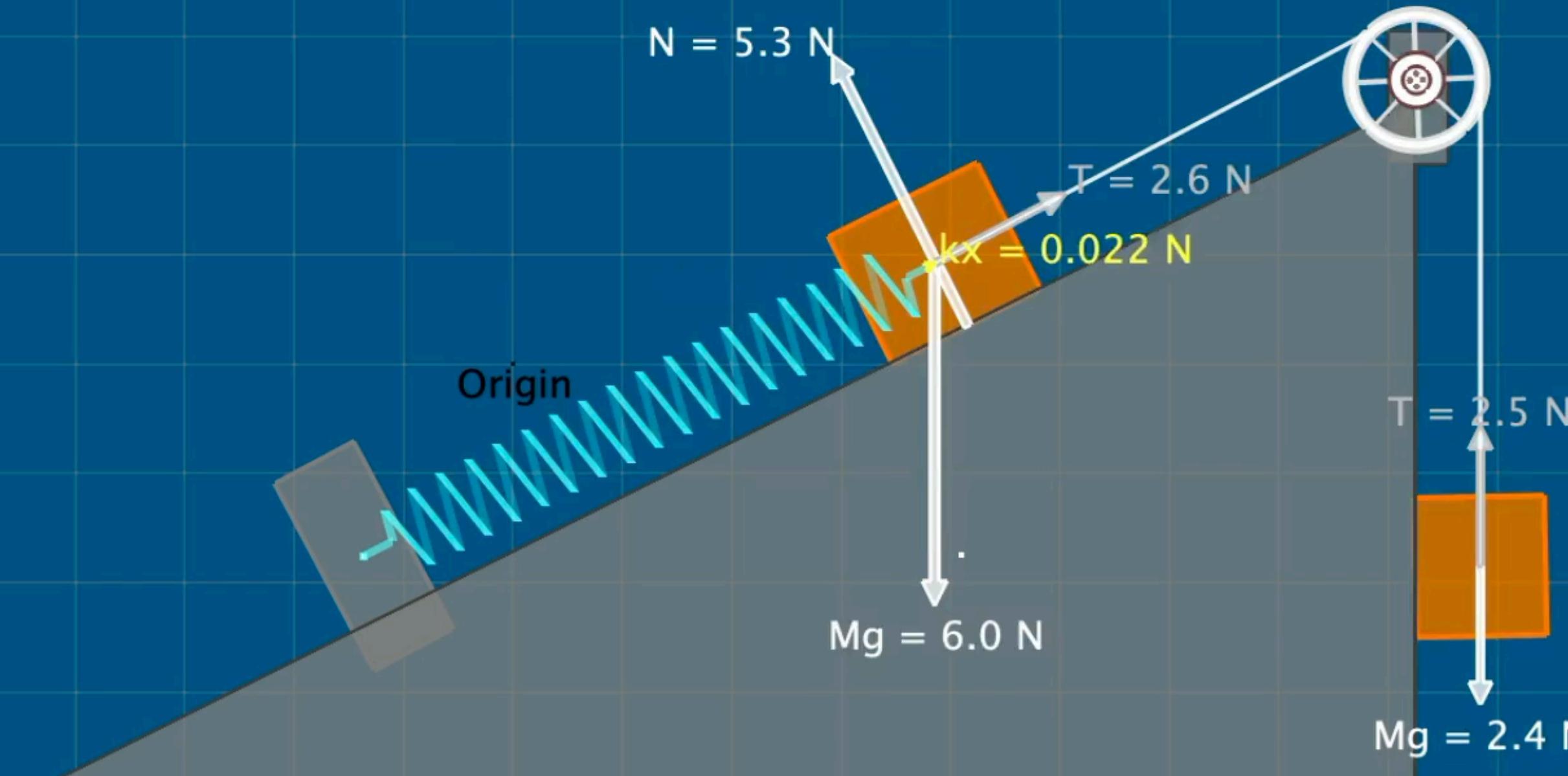
Physics Simplified





# What is SimPHY?

SimPHY is an **interactive Physics simulator**. It allows users to **create complex simulations using simple tools** that enhances STEM learning and aids visualisation.



# Use Cases

## For Teachers

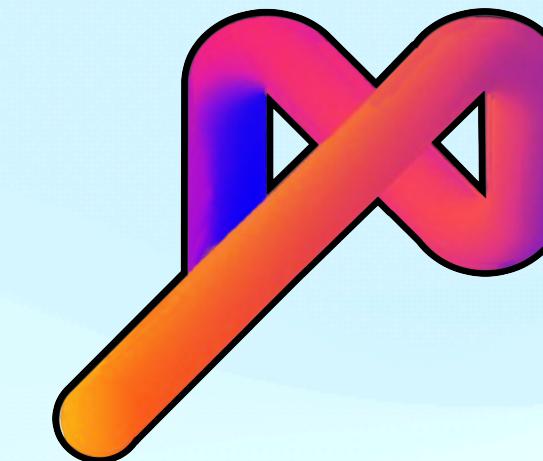
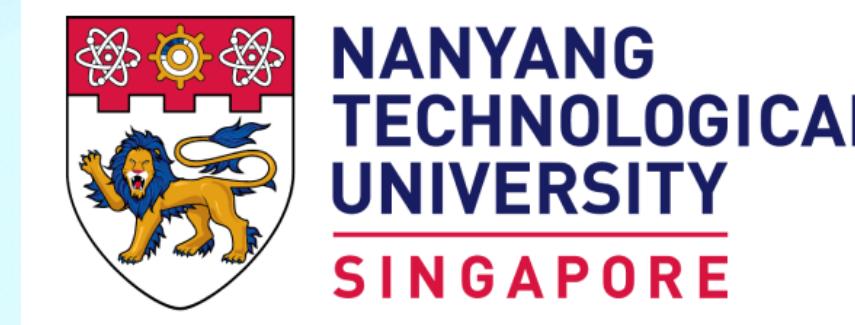
- Assistance in teaching
- Plug & play with an option to create and edit
- Give Practical Demos
- Conduct Virtual Experiments

## For Students

- Helps in visualising abstract concepts
- Increases knowledge retention
- Generate curiosity
- Increase class interaction

# Clients & Partners

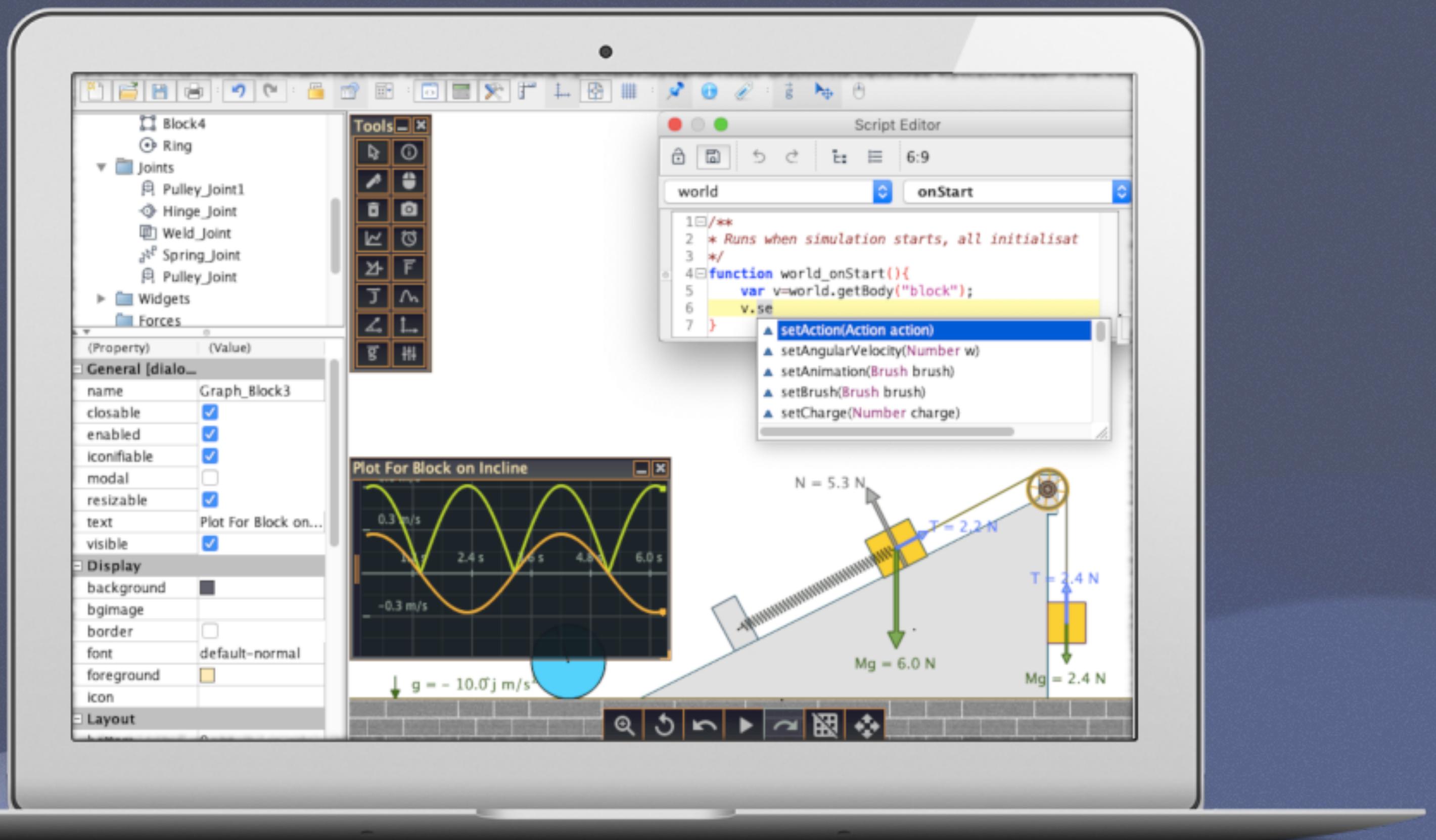
NTU Singapore and UAH have designed  
semester long courses on SimPHY



Innoverts Network



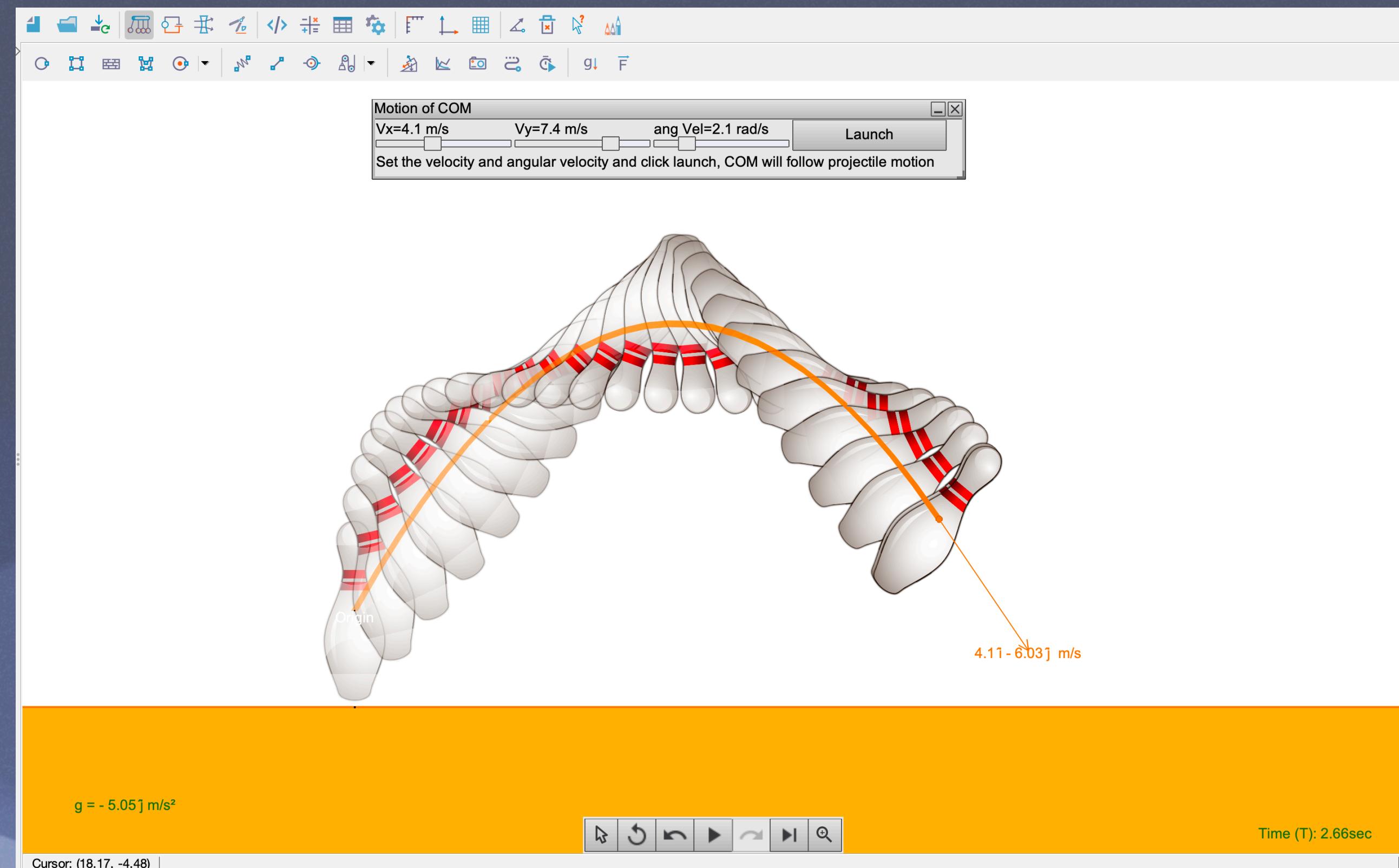
# Possibilities with SimPhy



- Mechanics
- Circuits
- Optics
- Geometry
- Virtual Labs
- 3D Simulations
- Pre-designed simulations
- Regional Languages

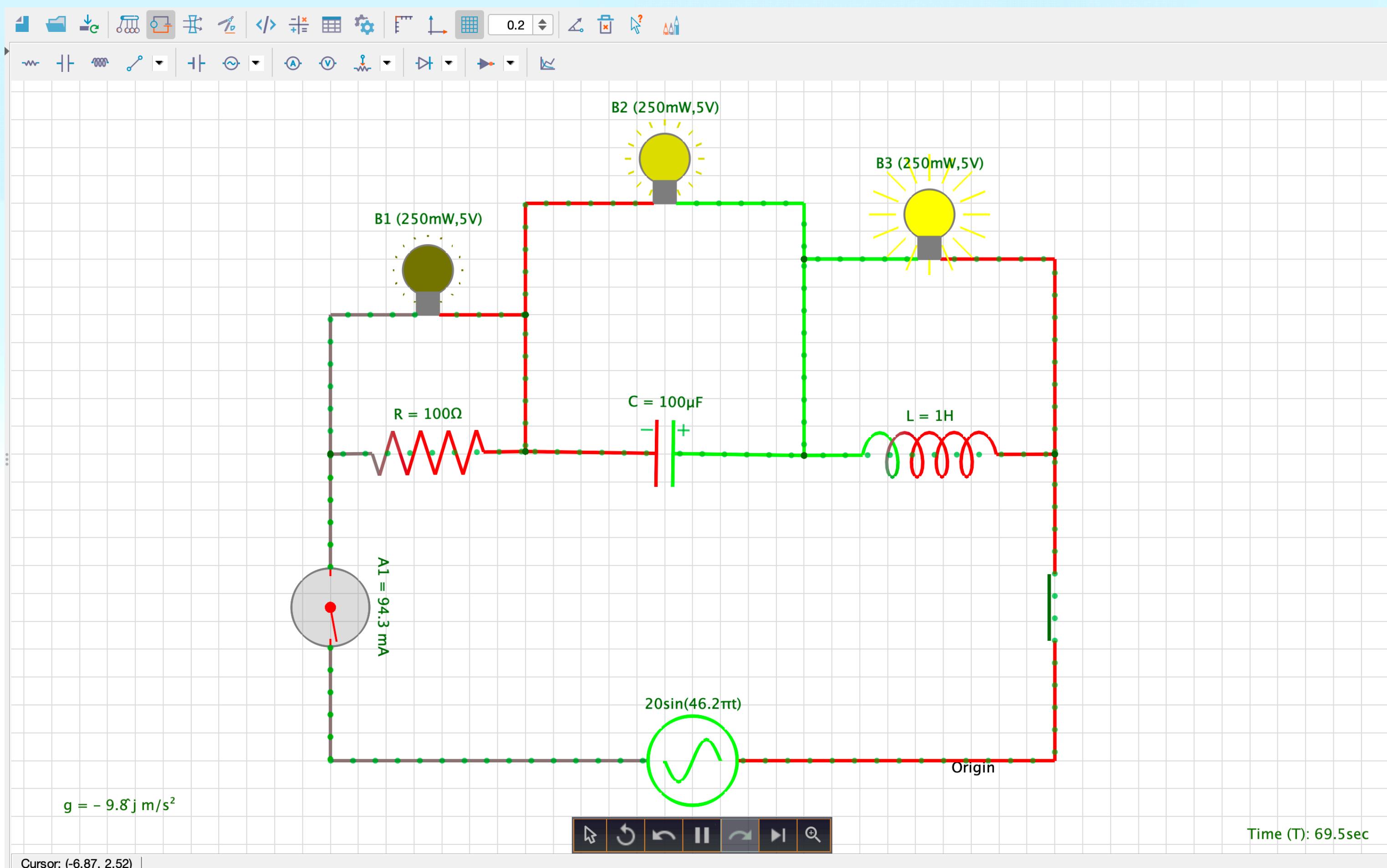
# Rigid Body Dynamics Module

- Draw and Draw tools for mechanics
- Tools such as
  - Bodies, Gears, Pulley, Types of Joints.
  - Customisable Fields (electric, magnetic, buoyancy)
  - Scriptable Graphs.
  - Graphs, Free body diagrams, tracers, camera etc.



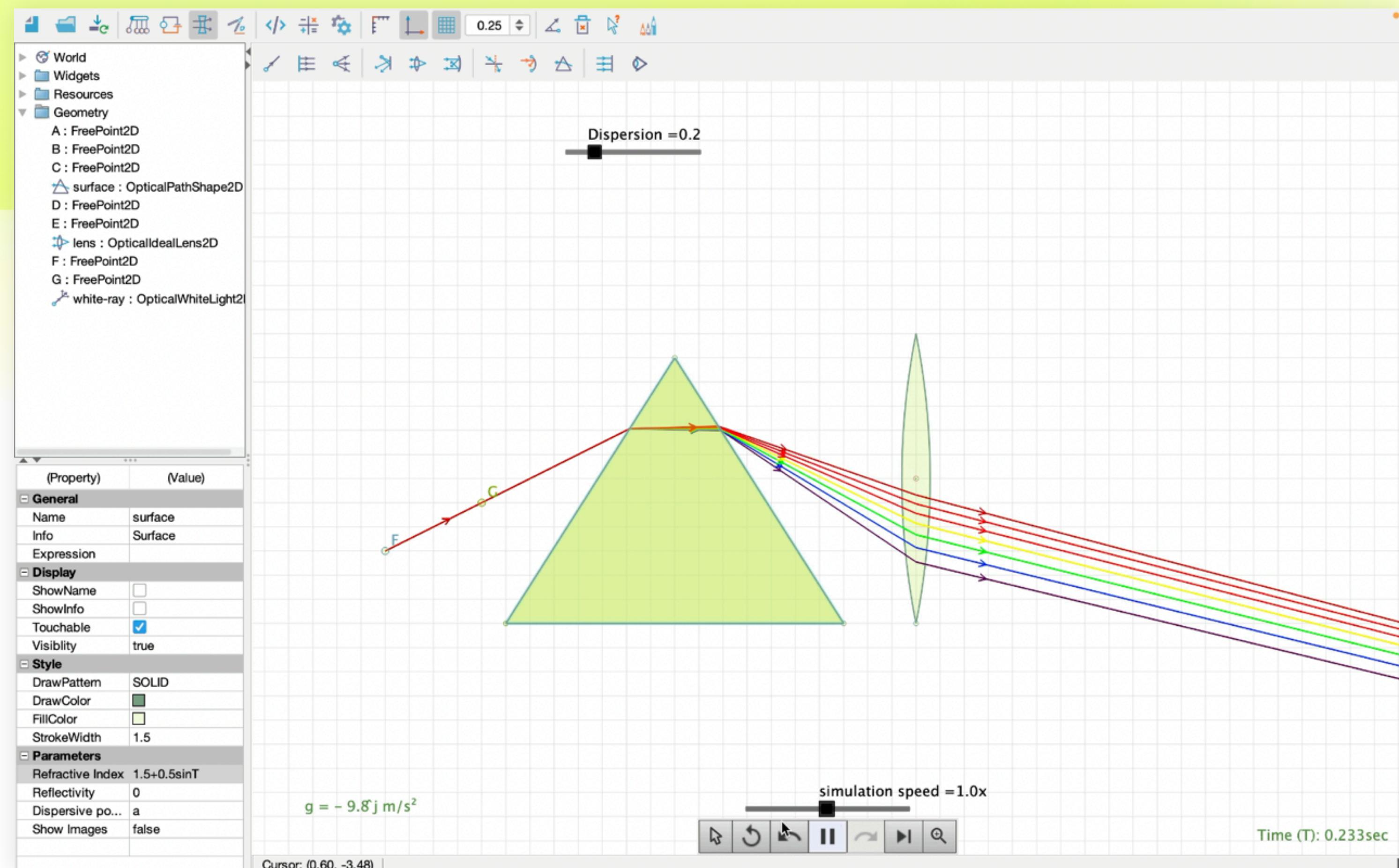
# Circuit Module

- Drag and Draw tools for Electrical Components
  - Resistors
  - Capacitors
  - Inductors
  - Voltmeters etc.
- Simulate circuit diagrams.
- Study behaviour of current, voltage etc. using graphs.



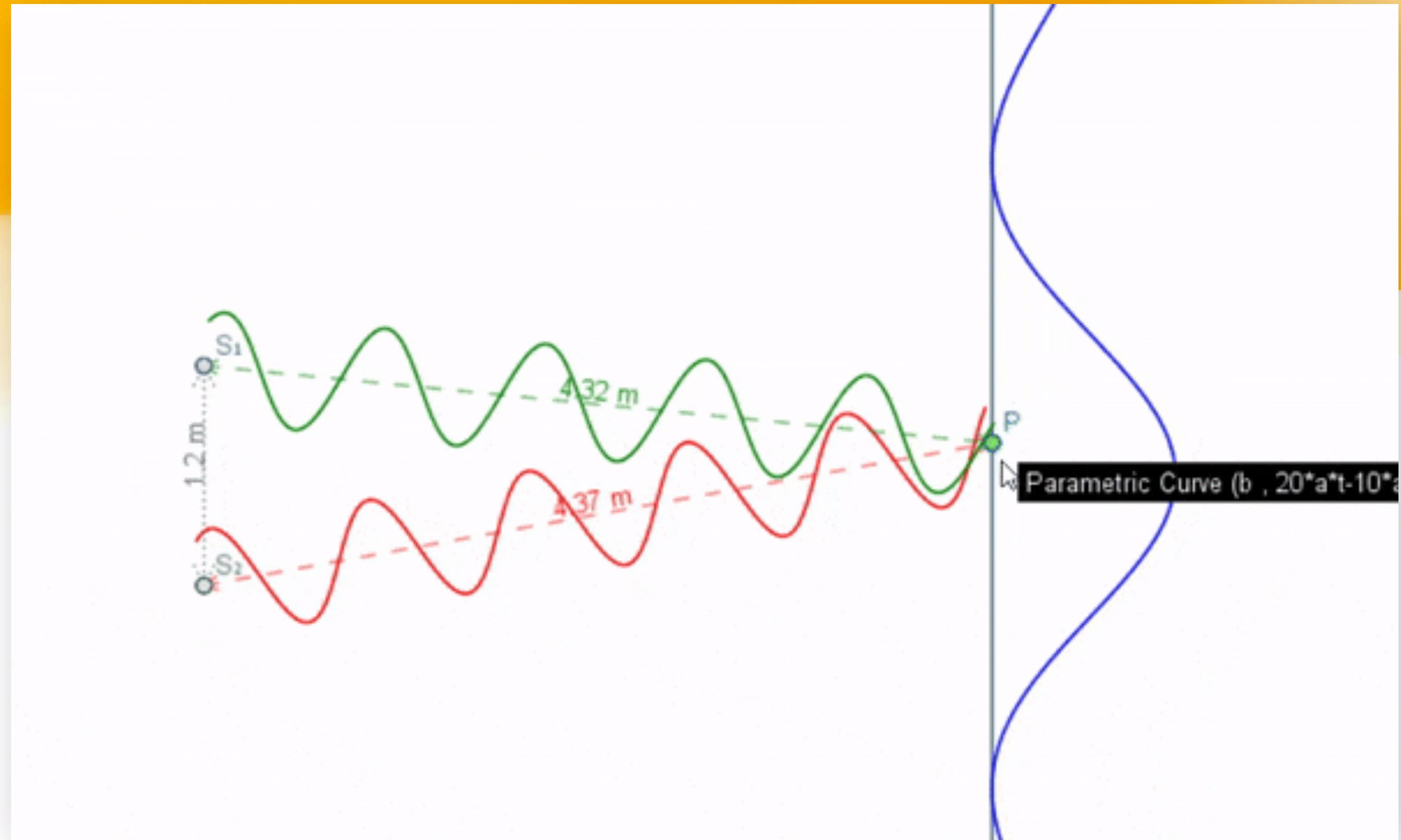
# Optics Module

- Pre coded tools for Optical elements
  - Light sources
  - Mirrors
  - Lens
  - Refracting Surfaces
  - Prisms, etc.
- Simulate object and image creating scenarios.
- Study behaviour of mirrors, lens, light beams etc.



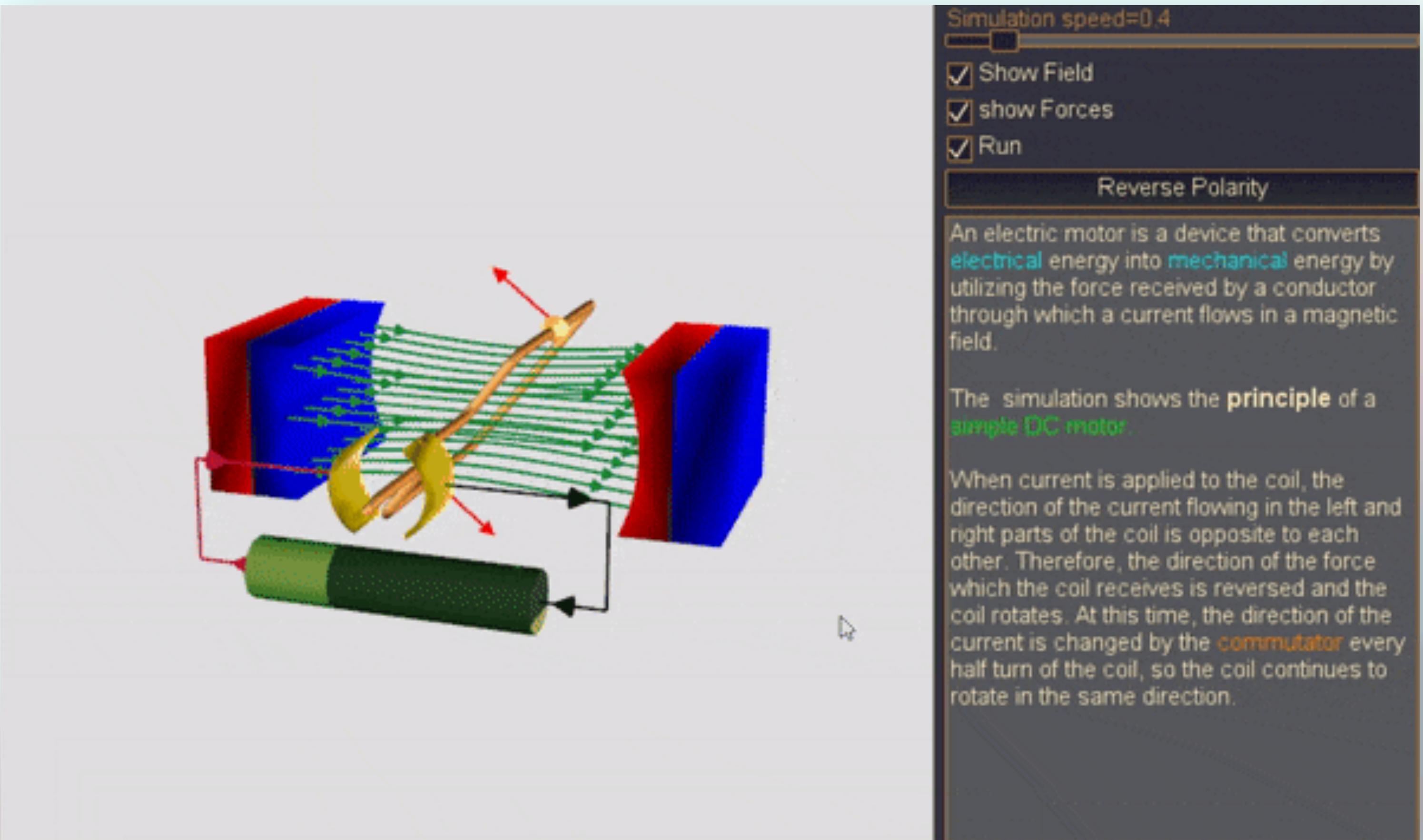
# Geometry Module

- Create Mathematical curves and elements
- Constructions with:
  - Points
  - Vectors
  - Segments
  - Lines
  - Polygons
  - Conic Sections
  - Implicit Polynomials
  - Functions



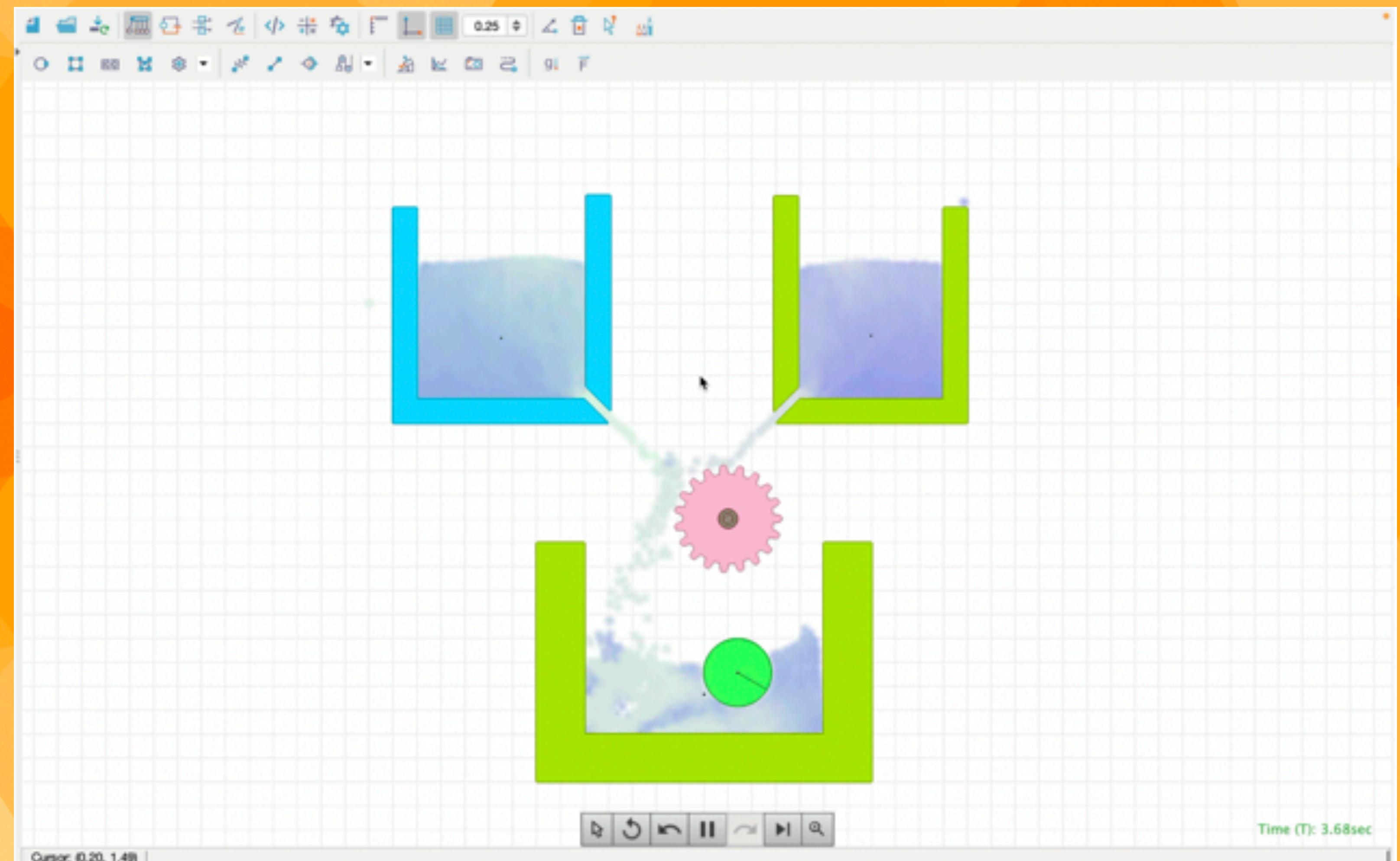
# 3D Module

- Create 3-D simulations with very little coding.
- Supports
  - Obj, 3d formats
  - Lighting
  - Materials
  - Camera
  - Basic Physics phenomenon



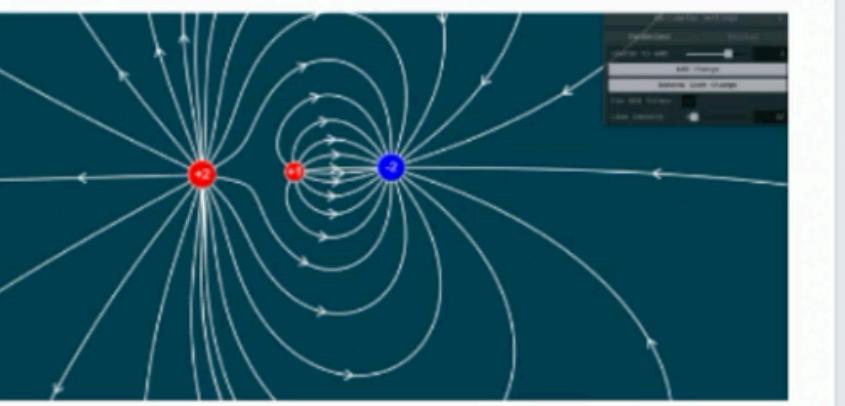
# Fluid Simulations

- Create Fluid particles
- Supports changes in physical properties of the fluid
- Interactions between fluid and solid bodies
- Create and study soft bodies

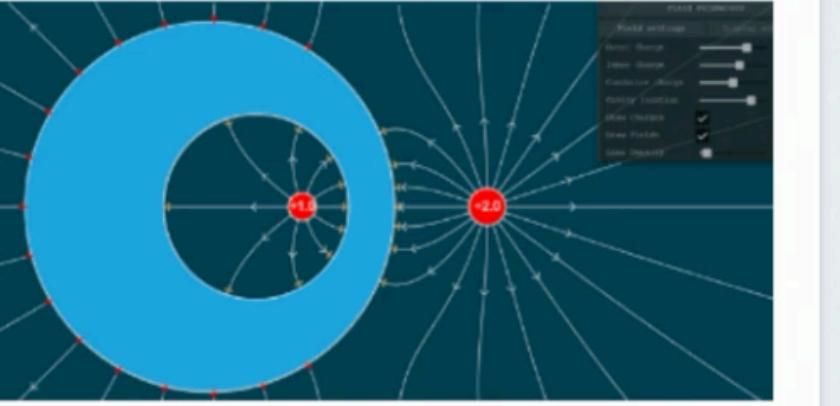


# Plug and Play Simulations

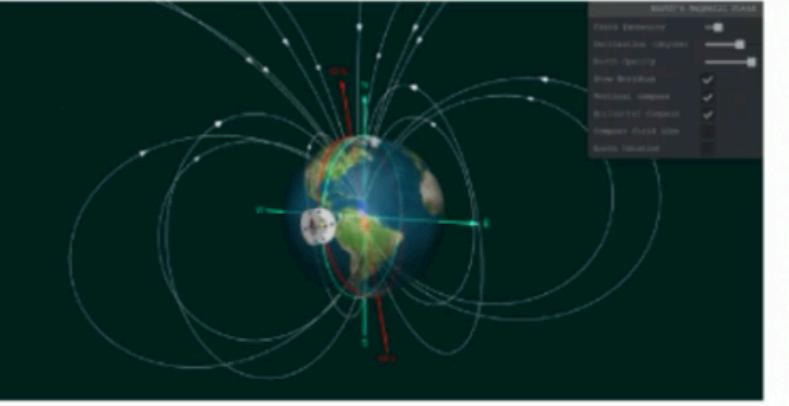
- Pre designed simulations in accordance with school curriculum.
- Plug and play simulations curated for topics of Physics, Mathematics and Chemistry.
- Simulate and reach solutions to JEE & NEET level questions



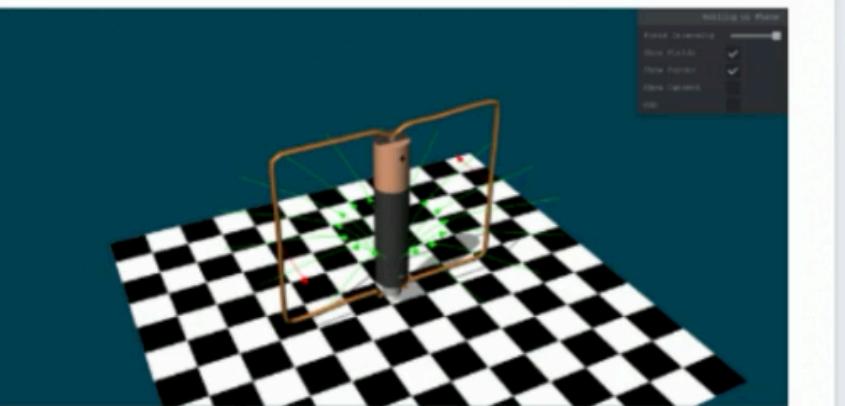
Charge Field lines



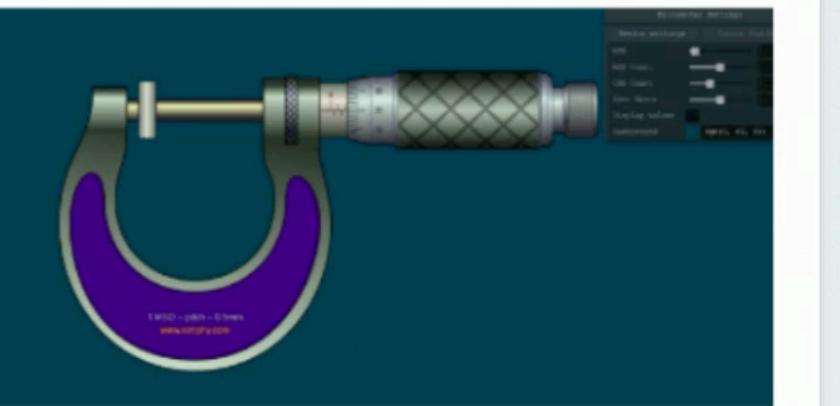
Conductor Field Lines



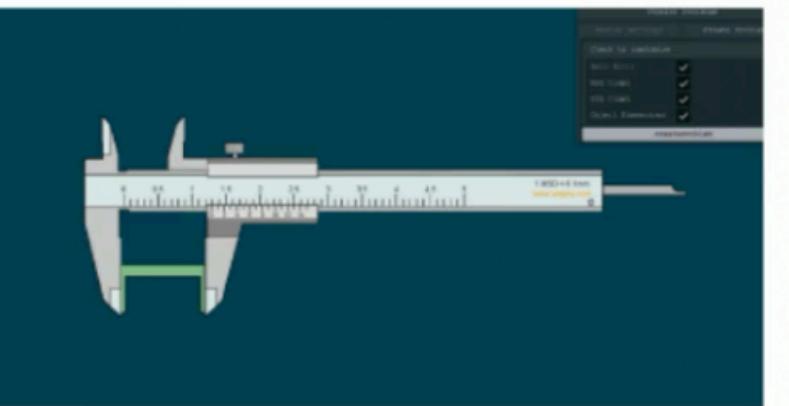
Earth Magnetic Field



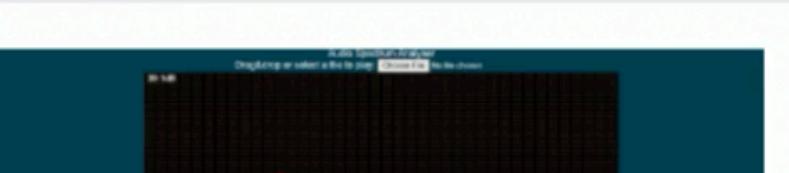
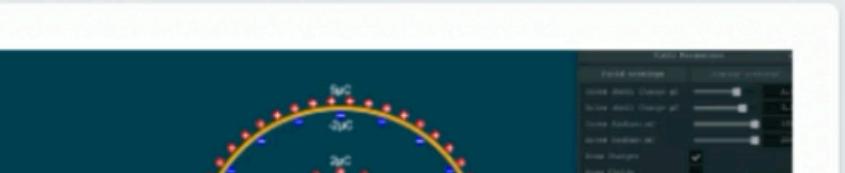
Homopolar Motor 3D



Micrometer



Vernier Calliper



# Implementation

## Pilot in 50 schools

- Installing into digital boards
- Assistive tool for Science experiments

Feedback Period of  
3 months

# Feedback & Support

- Monitor school wise usage
- Provide targeted support and training
- Zone wise support groups
- Year round support for teachers and students



# Conclusion

We at SimPHY believe that educational tools of the highest quality must be accessible to everyone. So, after years of trials and testing, we have created SimPHY to simplify, visualise and love Science.

We believe it to be a trailblazer among all the educational softwares out there and will revolutionise Science in High schools and Universities.

# Thank You

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