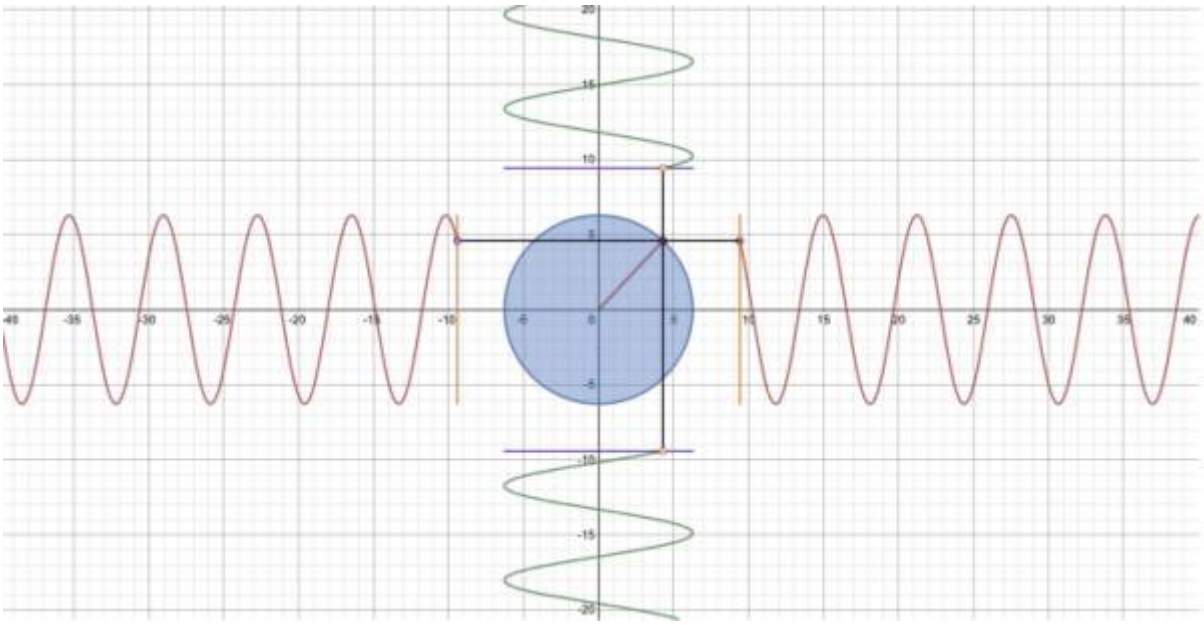
Kurzbeschreibung / Short Description

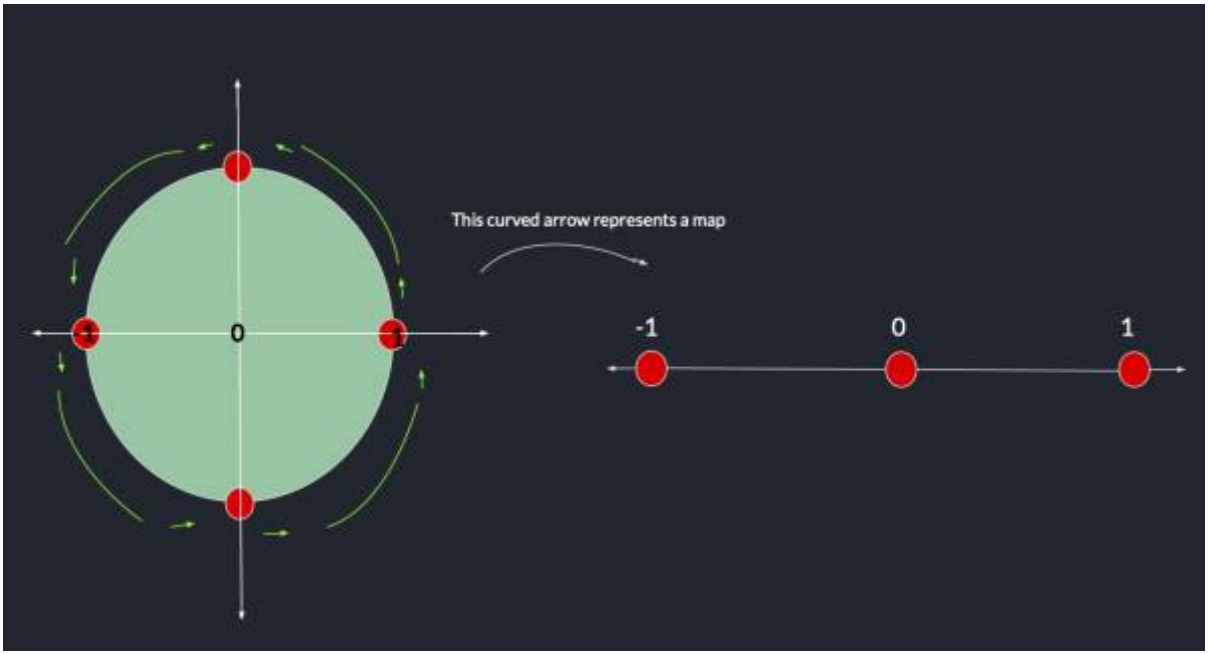
The goal of this project is to provide visual intuition and feeling for the underlying mathematical language that helps describe physical phenomena. I will conceptualize a virtual display based on the following question:

Can moving around on a circle be seen as moving along a straight line?

The question will be visualized by creating and modifying a few animations that exemplifies the relationship between periodic and uniform circular motion. By using the Socratic Dialogue in conjunction with the animations, a process of exploration can be created as the person attempting to communicate the solution of the question can do so by methodically refining the question with visual aids. This then allows the audience interacting with the animations to be led along to the solution by illuminating subtleties in the question.



Theorie / Theory



For further information please see:
Physics for Everyone - Book 1 - Physical Bodies by L. D. Landau, A. I. Kitaigorodsky
The Physics of Waves by Howard Georgi

Bauplan / Blueprint

- **Material / List of Material**
  - Pencil
  - Paper
  - Computer with Internet Access
  - Graphing calculator software called Desmos
  - Literature & video resources on mathematics, physics, and philosophy
- **Aufbau / Construction**
  - Sketches were drawn on paper and then played with Desmos software to attempt to animate the drawn ideas
  - Rather than repeating work, look through Desmos community to find out that a few demonstrations of the drawn ideas already exist
  - Input the appropriate geometrical equations and then use basic animation features to display the motion of a point in circular and periodic motion
    - Animation 1 using Desmos (found on Desmos community–credits to the original creator–using for educational purposes)
    - Animation 2 using Desmos (found on Desmos community–credits to the original creator–using for educational purposes)
    - Animation 3 using Desmos (found on Desmos community–credits to the original creator–using for educational purposes)
  - Animation 4 that was built by Russell Georgi using html5 canvas a script-language to do browser-animations (credits to the original creator–using for educational purposes)

Fazit / Conclusion

- **Anmerkungen / Remarks**

- **Probleme / Problems**
- **Verbesserungen für nächste Version / Improvements for next version**