Assignment: Conveying Complexity Correctly and Creatively

Create an artifact that explains the essence of the P = NP question to a target audience. (If you have a brilliant idea for something that is not related to P = NP but is related to this course, that may be acceptable also, but check with me first.)

Collaboration Policy. *Read carefully: different from previous problem sets.* For this assignment, you may work alone or with a others. If you work in a team, your team should jointly post a single submission with all of your names on it. All team members will receive the same grade. Your team may be as large as you want, but the expectations for quality and value of your submission scale according to $\sqrt{N}$ (that is, a team with 4 people should do something twice as impressive as an individual to merit the same grade). You are welcome to include people not in the class in your team (and they do not increase the value of N).

Target Audience. You can define your target audience but should specify what it is. Examples of target audiences include "typical third graders", "your parents", "UVa students majoring in history", "Martians", "cs101 students". Your artifact can be anything you want that can be posted on the Internet. Examples of possible artifacts include a written story, a comic, a video, a song (lyrics), or an interpretive dance.

Submission. You should submit your response by posting it (or a link to it) on the course blog. The post should include: (a) the names of everyone on the team; (b) a description of your target audience; and (c) either the artifact itself or a link to it if it is hosted elsewhere. If your artifact cannot be posted on the Internet (for example, if you bake a cake, build a quantum computer, or develop a time machine) you should still post a description of your artifact (including a picture if helpful). Your submission may also include (d) a *poetic license* statement. Everything technical in your artifact should be correct, unless you carefully document how you know it is incorrect. To convey the essence of an idea effectively to a general audience, it may be necessary to simplify some things in ways that are not technically correct but do not violate the important essence of the idea. If you do this, add a poetic license statement to your post that explains and justifies your decisions (otherwise, you will lose points for any technical inaccuracies).

Optional Presentation. If you would like to present or perform your artifact in class on May 4, send me an email by 5:00pm on Monday, May 3 explaining what you would like to do and how much time you think you need for this. Given the size of the class, it won't be possible for everyone to do this, but some teams may be selected to do so.

Evaluation Criteria. Submissions will be evaluated on technical correctness and perceived effectiveness in conveying an important idea to your defined target audience. Aesthetic merit is also important, but is a secondary criteria.