External resources for RTV1 and RT

You'll find a lot of tutorials on the Internet which will most likely be in either C++, Java or C#.

Most often, you'll find that these tutorials cover complex scientific principles and concepts. Keep in mind that RTV1 is simple and requires only a few features. Your code doesn't need to include any long unintelligible formulas. For the Ray-Tracer project, you'll have to spend a little more time on your research. Even though you won't require to use math as much, you'll still have to delve into the concepts (how do you think I succeeded my Ray-Tracer?)

http://www.cs.unc.edu/~rademach/xroads-RT/RTarticle.html
http://www.cs.utah.edu/~shirley/books/fcg2/rt.pdf
http://www.siggraph.org/education/materials/HyperGraph/raytrace/rtrace0.htm
http://www.cl.cam.ac.uk/teaching/1999/AGraphHCI/SMAG/node2.html

You can also find videos on YouTube that often require the use of third party software (3DS, Povray, OpenGL programming...) but they also often start with a visual presentation on Ray-Tracing which can help.

Here is a good start but you should search for more. There are a lot of resources available on this specific topic:

http://www.purplealienplanet.com/node/20

Note that most resources aims to have you manipulate complex formulas for very simple objects. Check out the other document called “RT: An illustration".

Lucky you! You won't have to do this project:

http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-837-computer-graphics-fall-2012/assignments/MIT6_837F12_assn5.pdf

To start it's mandatory that you master opening a window and draw something inside of it. If you understand Ray-Tracing principles you understand that you need to go through all pixels of the window/image one after another. Start small, with a sphere, at the center of the image. It's the first example of the tutorial video. The information to describe the scene is very limited (eye's position, sphere's position and radius) and can be hardcoded at first. There is no need to create any insane configuration files (which actually isn't required for RTV1 even if it's probably more efficient). From there, work on the next scene, as shown in the video. That'll enable you to unpack the various actions and face challenges calmly one after the other.

For advanced RT options:

Reflections and Refractions
http://graphics.stanford.edu/courses/cs148-10-summer/docs/2006--degreve--reflection_refraction.pdf

Perlin's noise
http://www.eastfarthing.com/blog/2015-04-21-noise/

Möbius strip
https://en.wikipedia.org/wiki/M%C3%B6bius_strip

Quadric Intersection
http://www.bmsc.washington.edu/people/merritt/graphics/qu