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GraPA



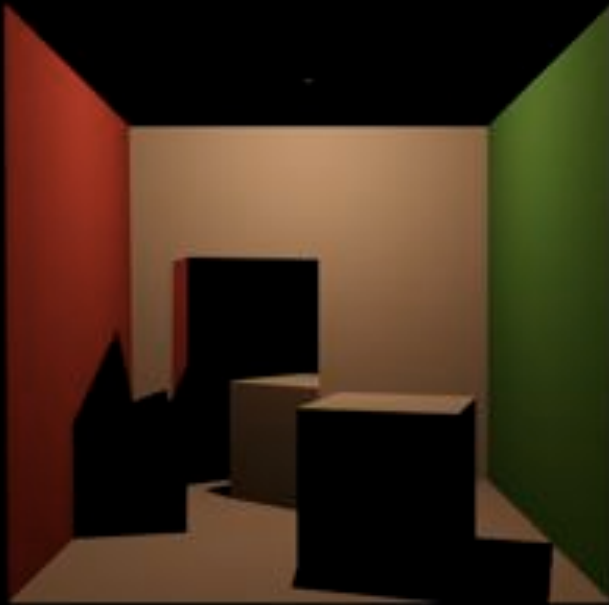
What is it?

- **G**raphics **P**rograming and **A**pplication
 - Computer graphics bootcamp
 - **HIGHLY** recommended for CG Thesis
 - A lot of **W**ork and a lot of **F**un
- What is it not?
 - Easy holiday for slackers

Ok, what exactly?

- **Ray Tracing** and **Rasterization**
- Two fixed assignments each (basic + advanced)
 - Detailed Problem Description
 - -> You solve / integrate into a large project
- One final unrestricted assignment
- Teamwork

Ray Tracing - Basic



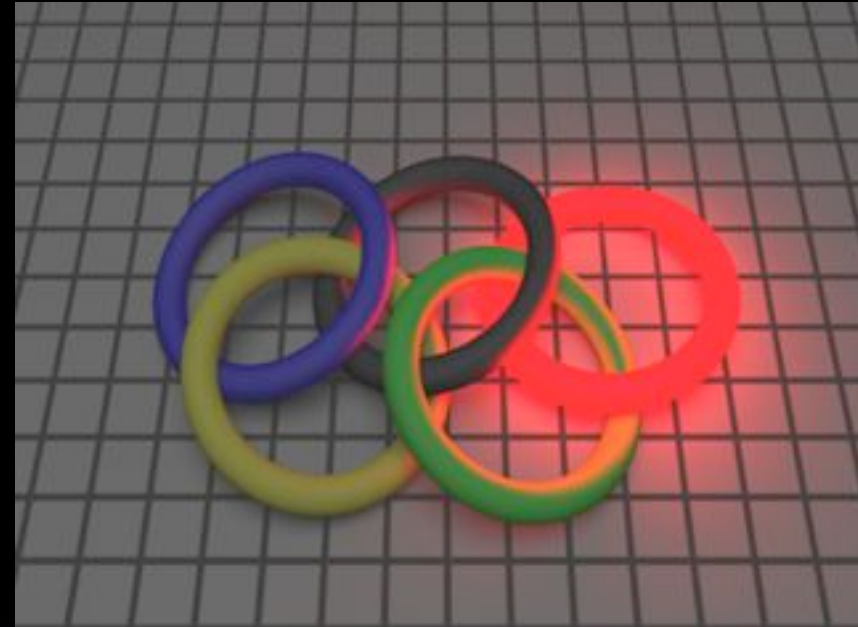
Ray Tracing - Basic



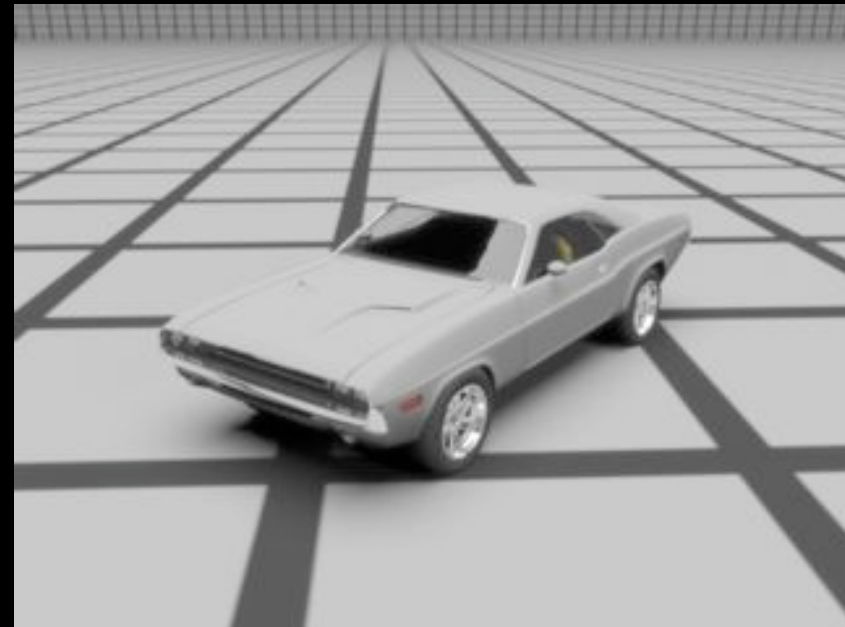
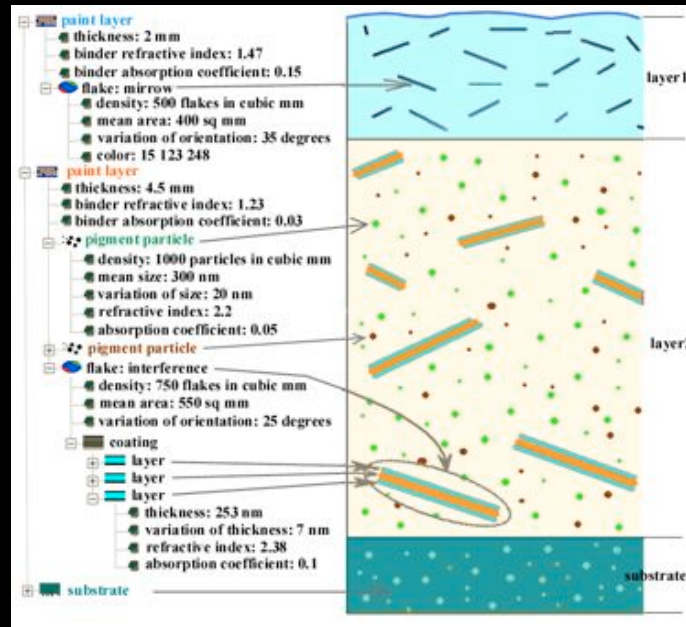
Ray Tracing - Basic



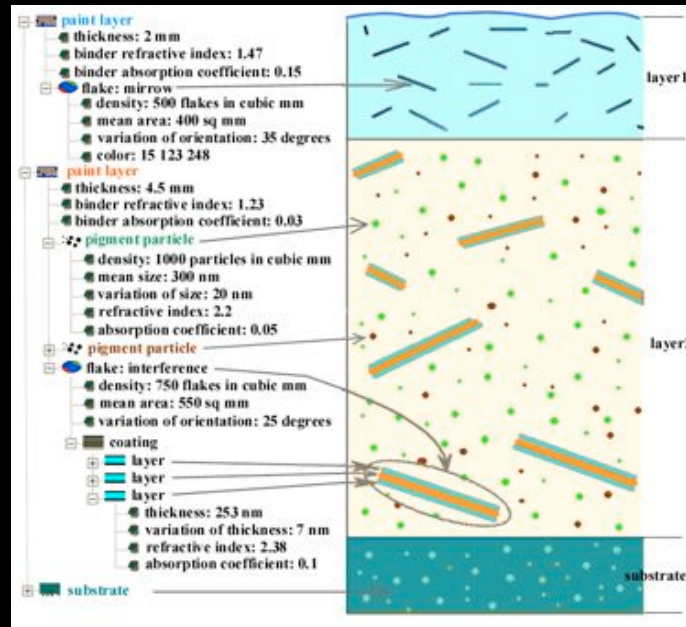
Ray Tracing - Basic



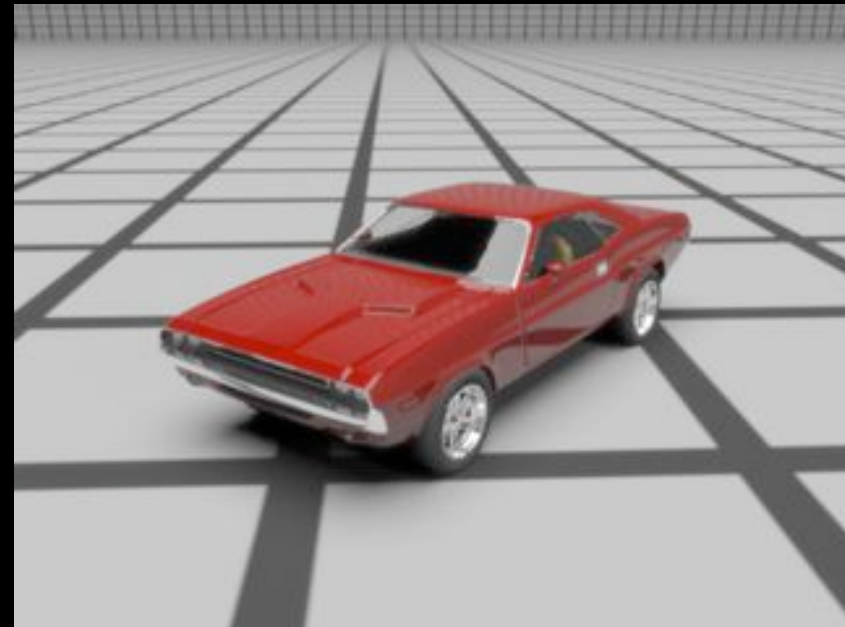
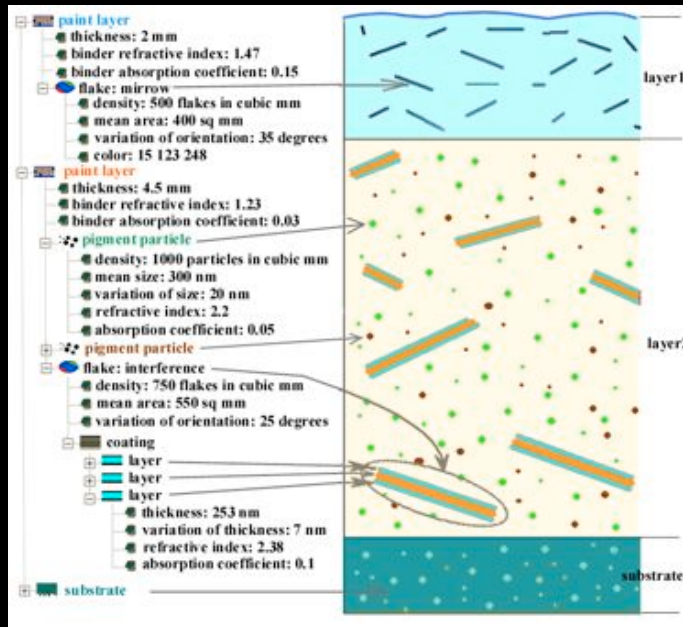
Ray Tracing - Advanced



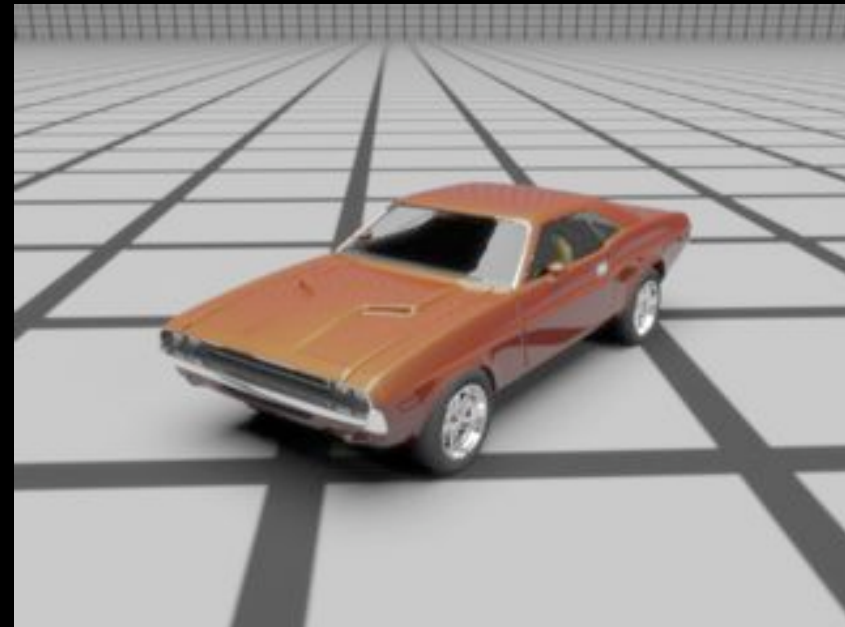
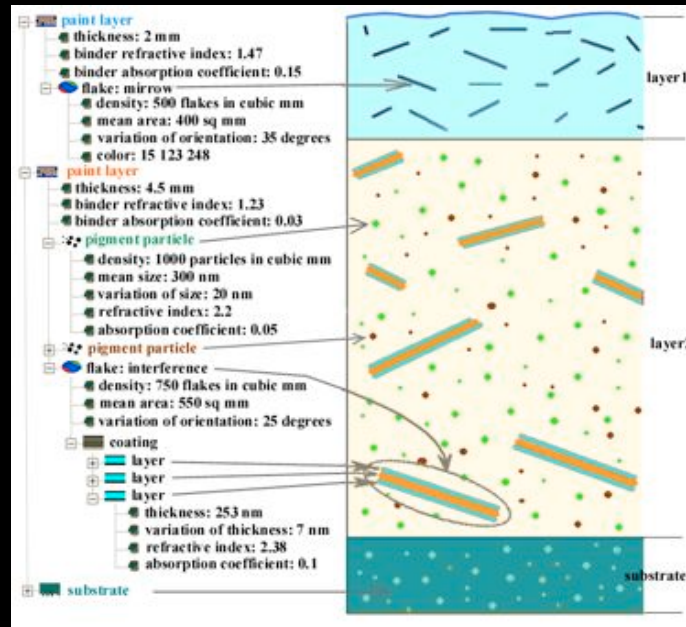
Ray Tracing - Advanced



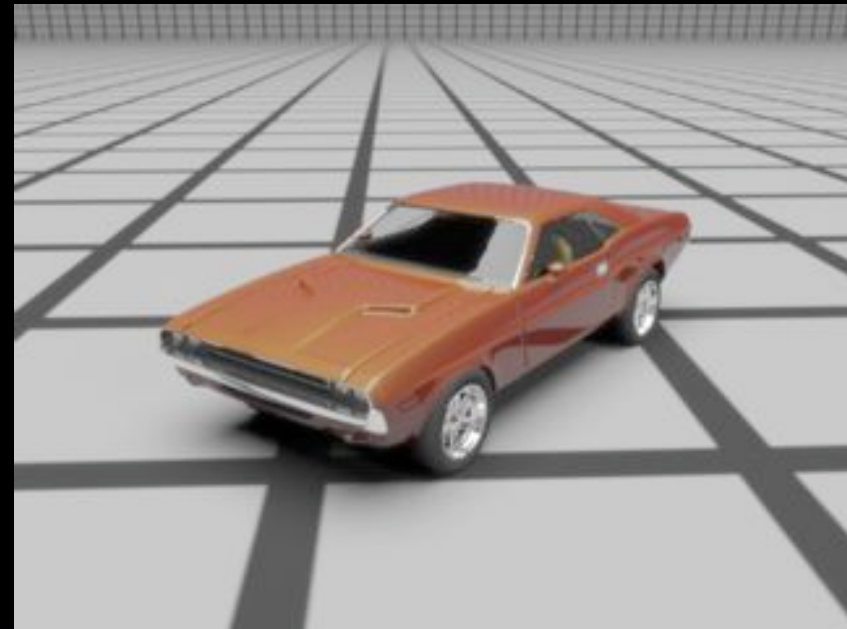
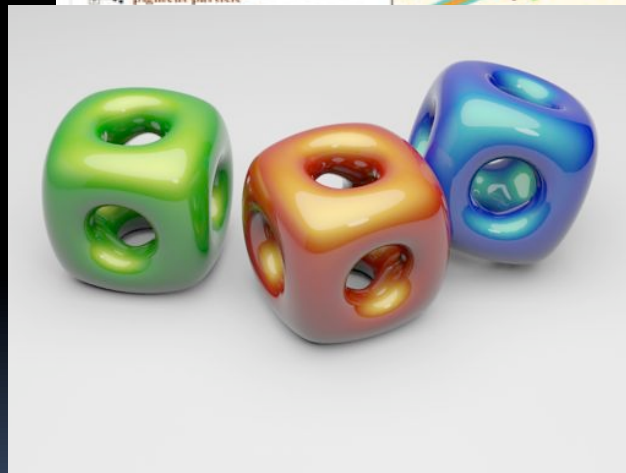
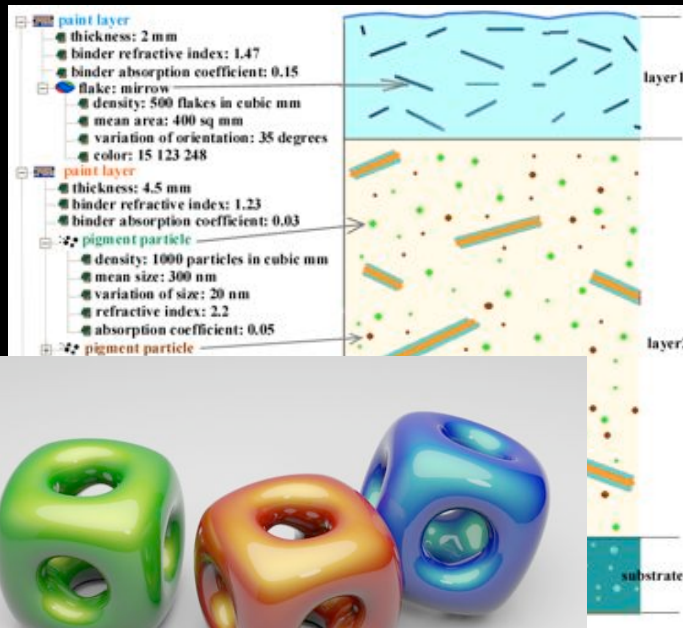
Ray Tracing - Advanced



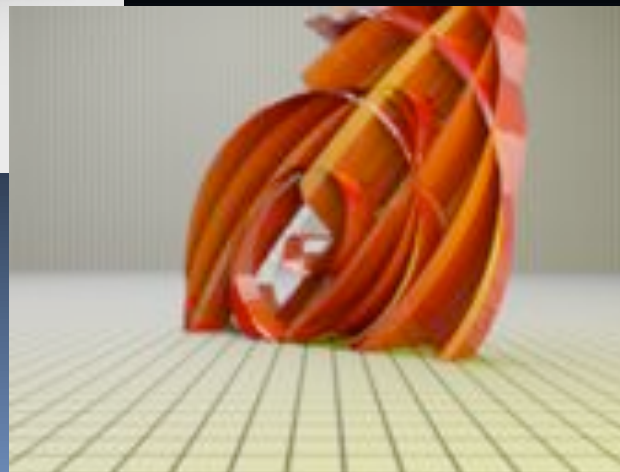
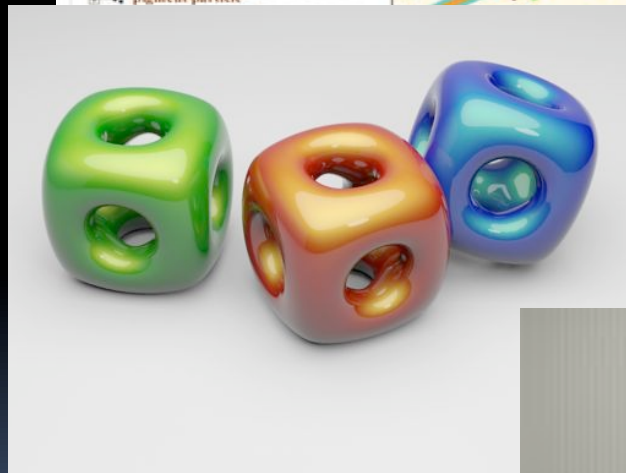
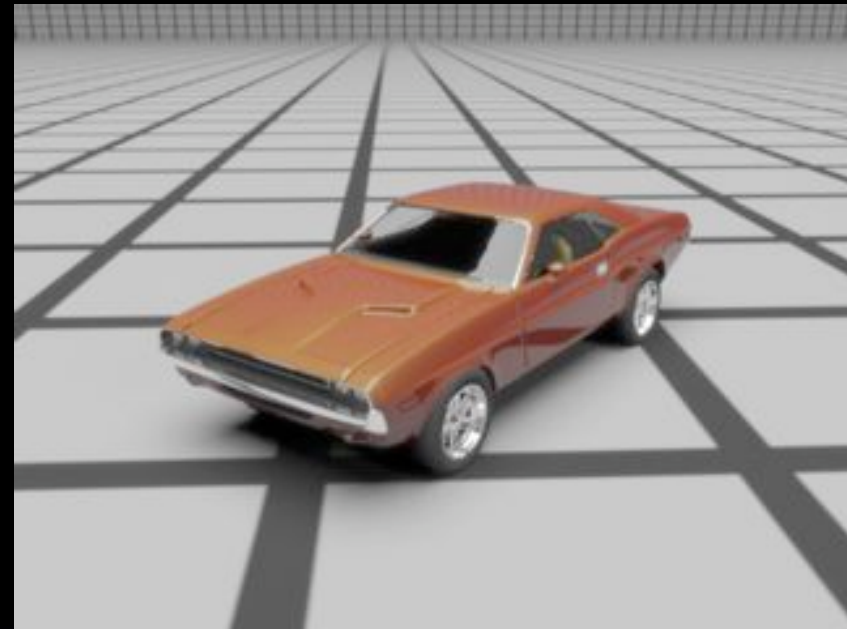
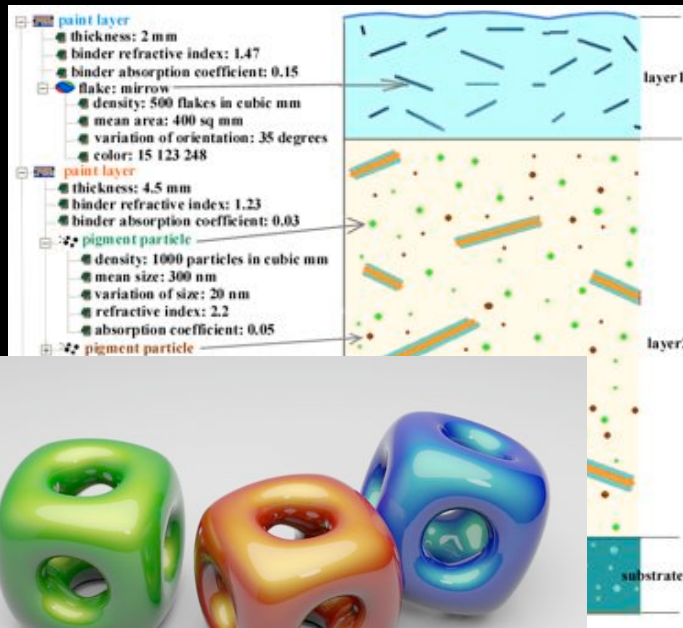
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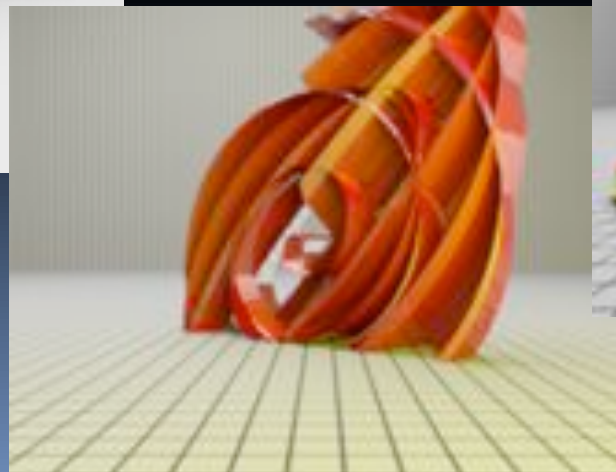
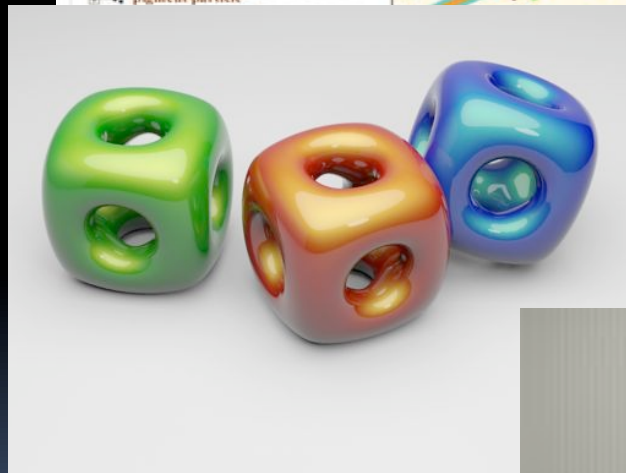
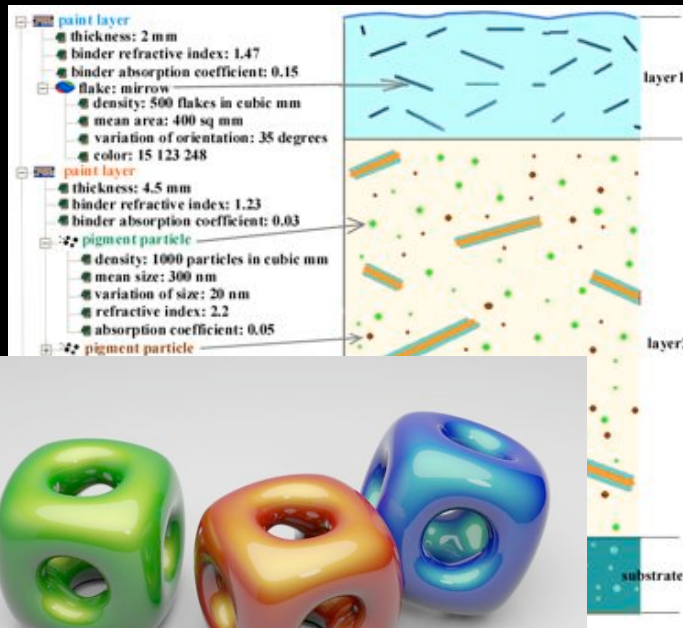
Ray Tracing - Advanced



Ray Tracing - Advanced

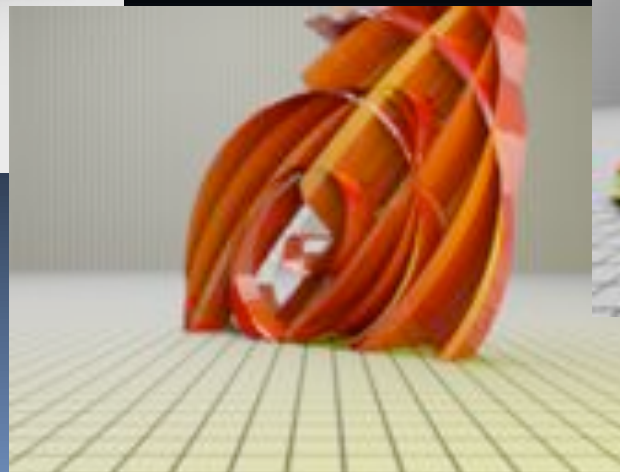
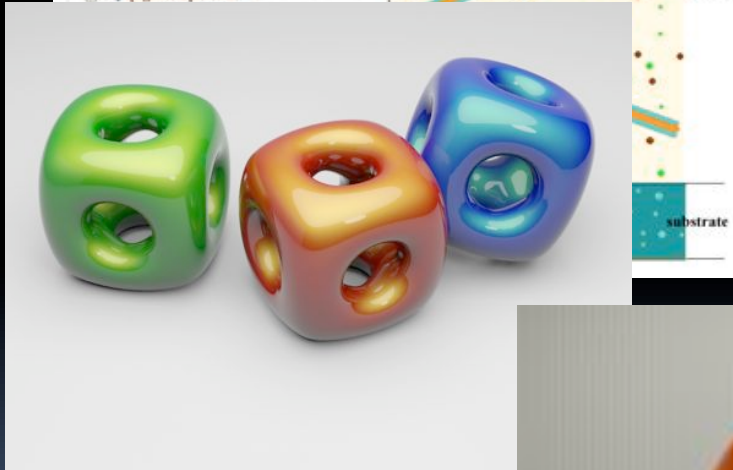
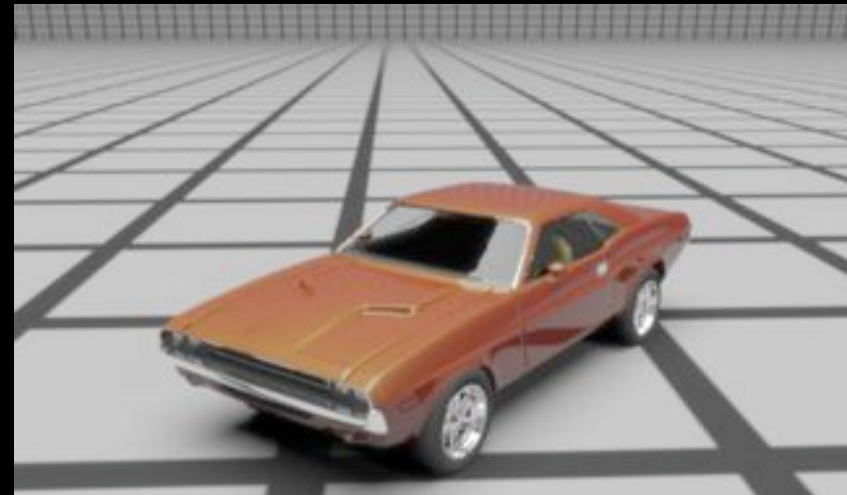
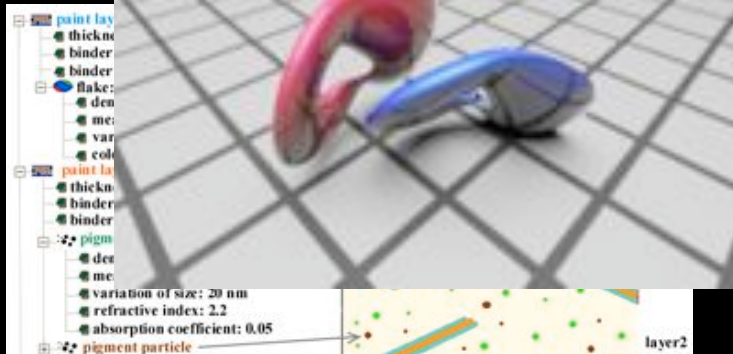


Ray Tracing - Advanced

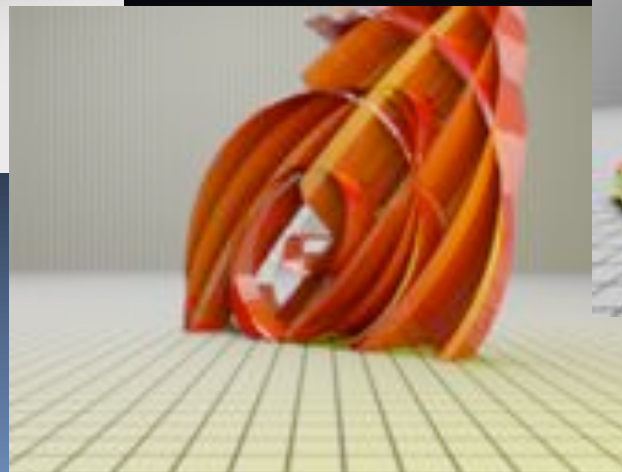
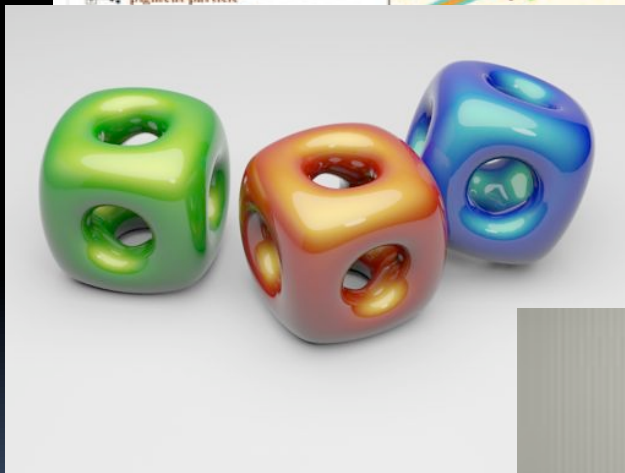
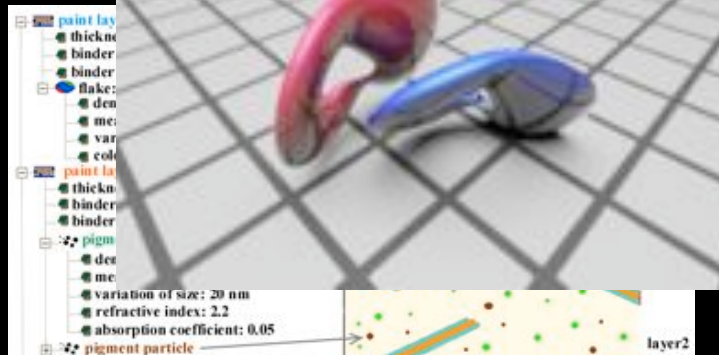


Raw Tracing

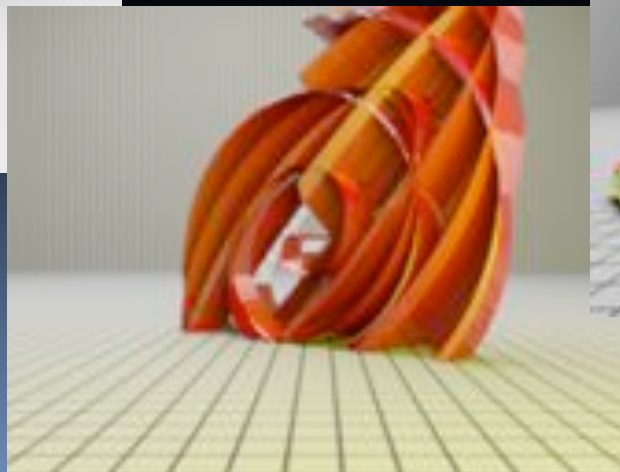
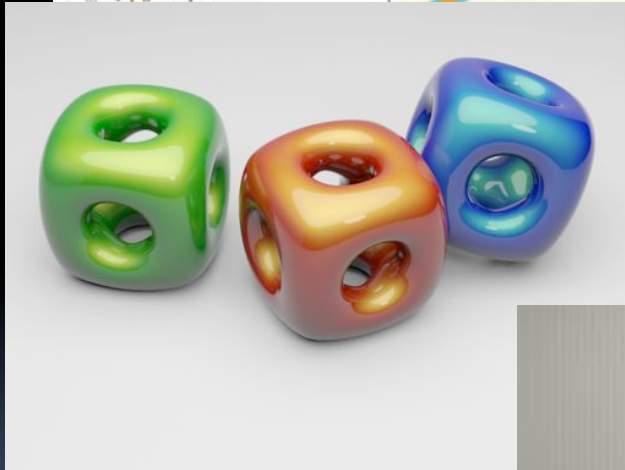
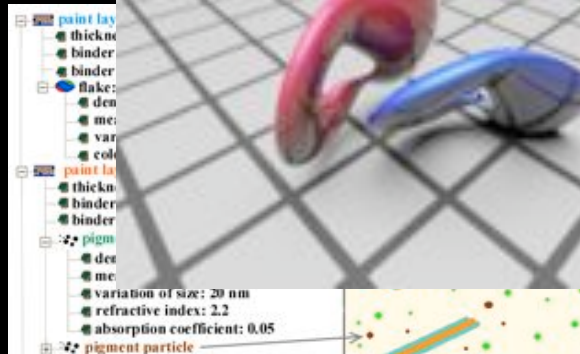
Advanced



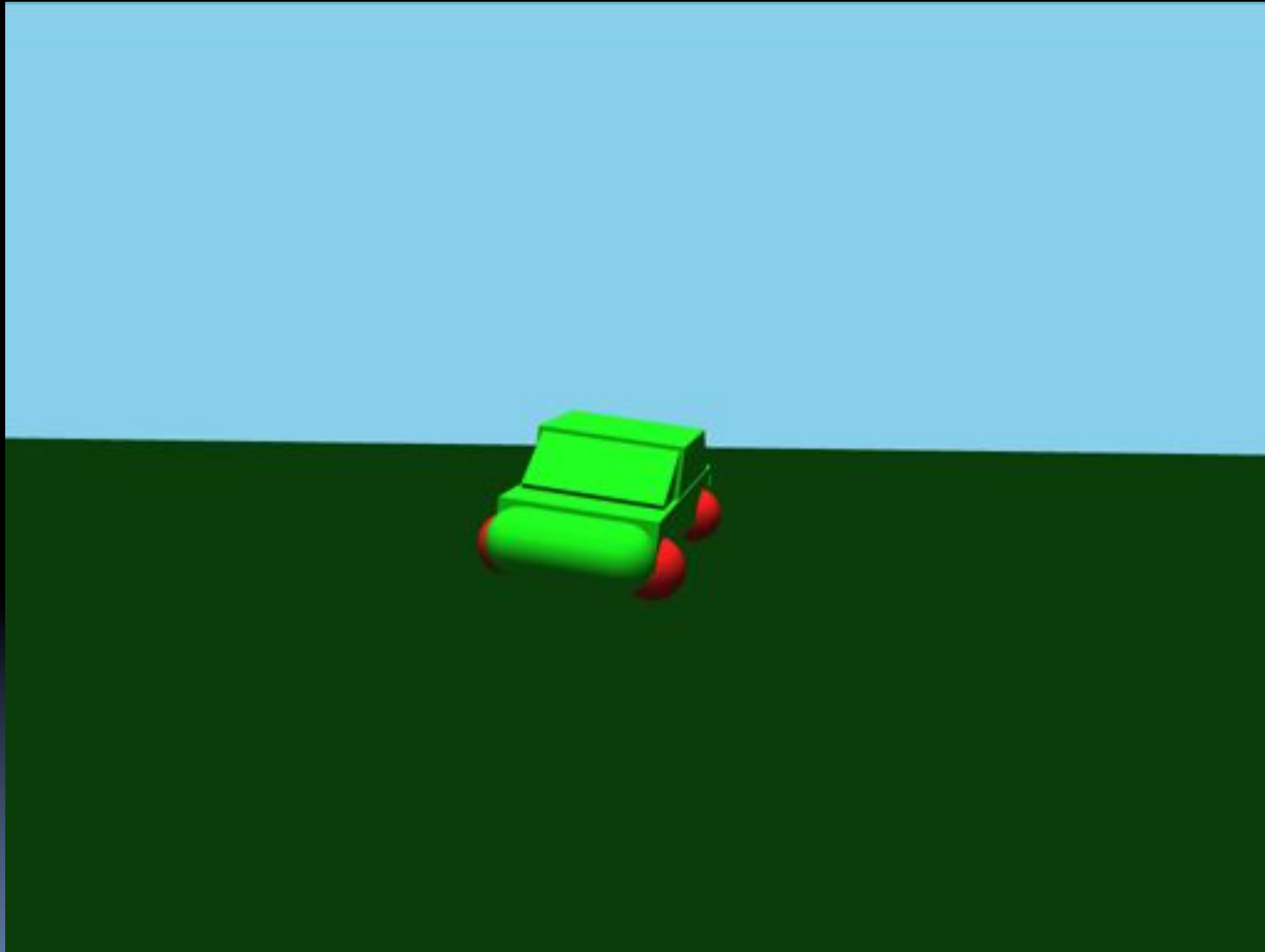
Ray Tracing



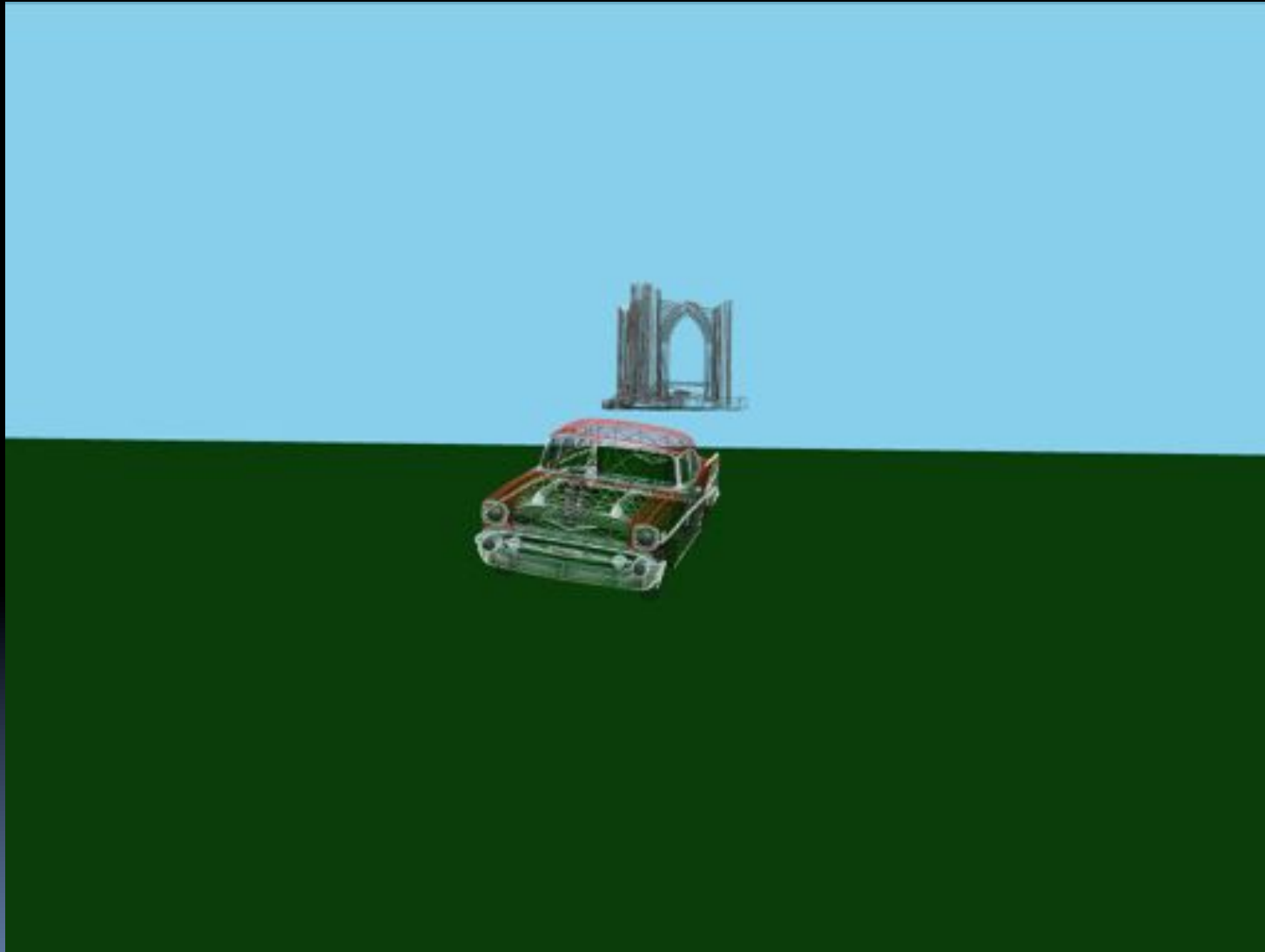
Ray Tracing



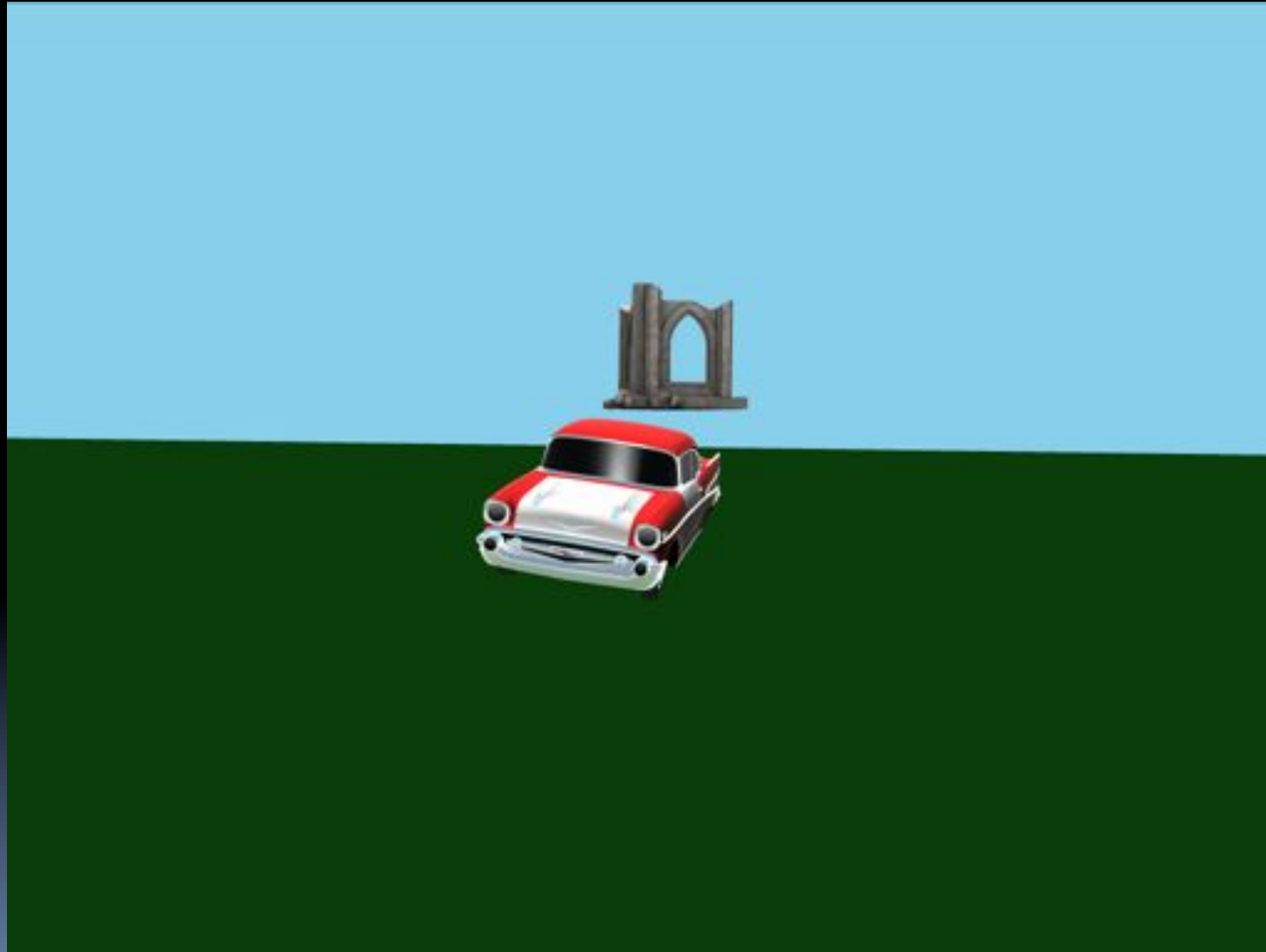
Rasterization - Basic



Rasterization - Basic



Rasterization - Basic



Rasterization - Basic



Rasterization - Basic



Rasterization - Basic



Rasterization - Advanced



Rasterization - Advanced



Rasterization - Advanced



Rasterization - Advanced



Rasterization - Advanced

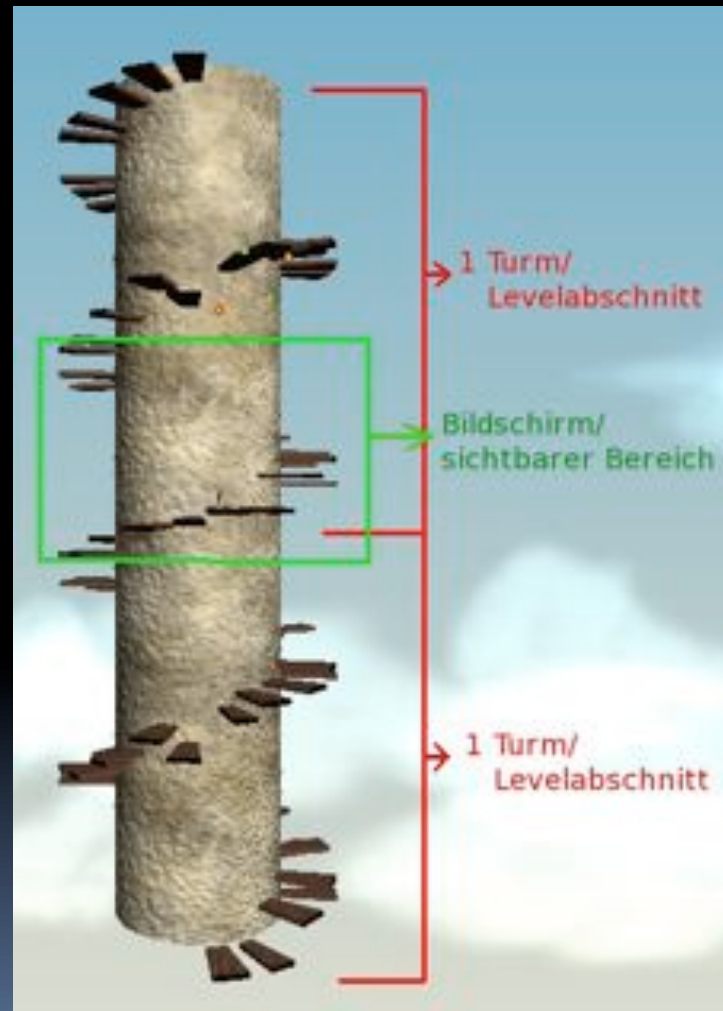


Final Assignment

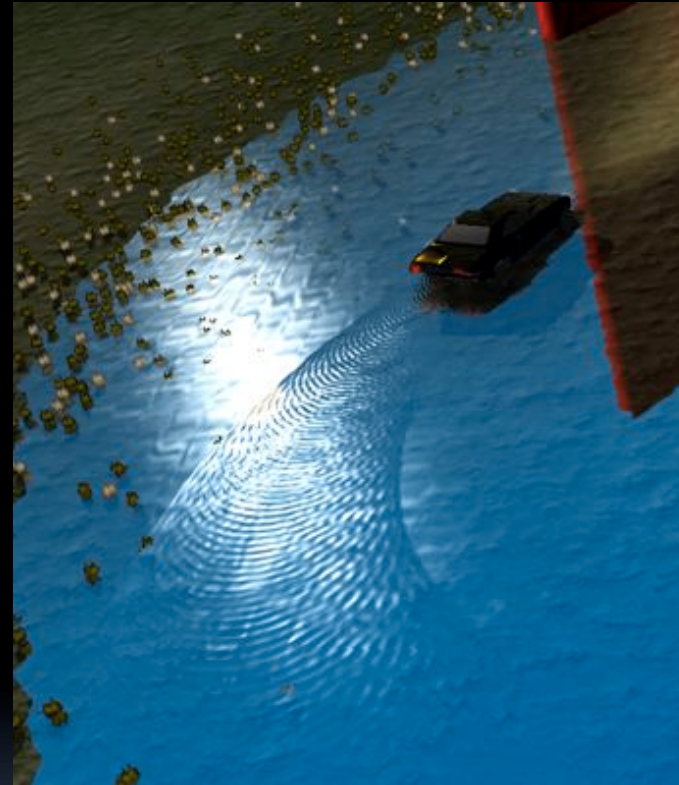
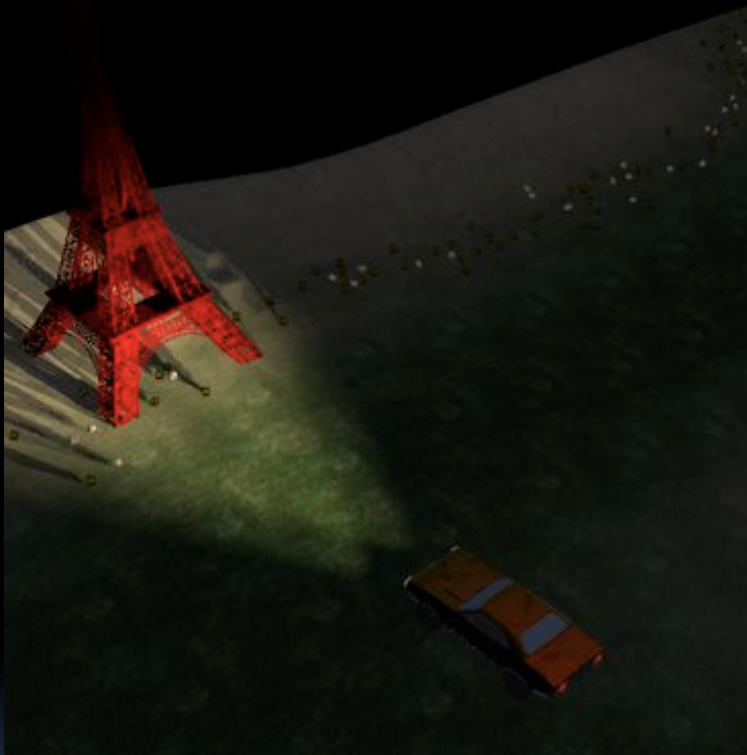


Jacob Wasza, WS 07/08

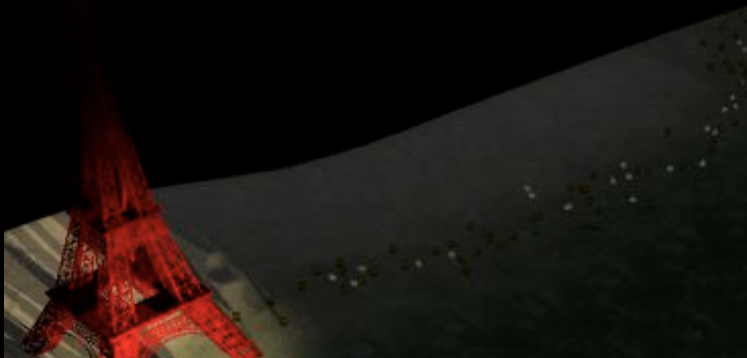
Final Assignment



Final Assignment



Final Assignment



Teamwork

- Assignments 1-4: Fixed
 - Random teams of two students
- Assignment 5: Free for all
 - What you want, how many you want
 - But: Submit detailed proposal
 - What goals?
 - How to measure achievement?
 - Who does what in the group?

Fineprint

- **Grade**
 - 20 points per assignment (100: 1.0 ... 60: 4.0)
 - Tiny oral exam to confirm/adjust
- „Guided Programming“
- One meeting per week
 - Not a lecture!
 - Discuss questions / present results

Requirements

- **Firm with C++**
- No fear of basic linear algebra
- Endurance
- Ability to ask good questions

Recommendations

- Visit CG lecture(s) in parallel
- Have a look at PBRT
- Have a look at NEHE tutorials:
<http://nehe.gamedev.net>
- Visit our website:
<http://www9.informatik.uni-erlangen.de>
- Send emails



Questions?

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