

Lecture 8 Is Software Different?

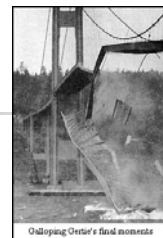
CSE 403
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Is Software Different?

Is software different?

- Is software less reliable?
- Are software projects more likely to fail?

It's not just software . . .



Is software different?

- Is the fundamental nature of software different from physical artifacts?
- Does it break differently?

Is software different?

- Is the environment of use of software different?

Is software different?

- Is the culture of software development different?
- Is the field immature?

What responsibility do writers of software have?

Should software engineers be licensed?

Software engineers: to license or not to license?

- In 1998, Texas started requiring software engineers to be licensed as professional engineers
- Is this a good idea, or not?

Goal of licensing?

- The general goal of licensing is to protect the interests of the public when safety is at issue and when the public cannot make effective judgments on their own
 - Civil engineers to ensure building standards are met
 - Aeronautical engineers to ensure aircraft safety rules are met
 - ...
- Many practicing engineers are licensed, especially civil and mechanical engineers
 - And many are not

Non-goals of licensing

- Guarantees of high-quality products
- Reducing costs of development
- Guild protection



Other approaches to safety

- Process-focused (CMM, capability-maturity model; ISO 9000)
- Product-focused (pharmaceutical industry, ...)



My views (Notkin)

- Protecting the public where safety is concerned is a crucial goal
- Licensing of software engineers cannot, at present, do that
 - In fact, it provides false guarantees to the public, which is totally inappropriate
- Perhaps at some point we will have a standard of practice that is sufficient upon which to base licensing – but not yet!
- Software is different – rapid and extensive change (both of the product and the underlying technologies) and the underlying mathematics are among the reasons



Some real dirt

- Why professional licensing was pursued overall in software engineering
- Why it was pursued in Texas