Why Software Fails

Think of software failures that have impacted you.

Due 11-2-24

Contents

[Exercise 1](#_Toc157523752)

[What was it? What Failed? 1](#_Toc157523753)

[Could testing have fixed it? 1](#_Toc157523754)

[Planning 2](#_Toc157523755)

[Given 2](#_Toc157523756)

[Why? 2](#_Toc157523757)

[Effect of failure 2](#_Toc157523758)

[testing and risk 2](#_Toc157523759)

[Mine 2](#_Toc157523760)

# Exercise

## What was it? What Failed?

## Could testing have fixed it?

# Planning

## Given

### Why?

Software developers make errors.

working pressures

organisation and system complexity

inadequate analysis

errors in specifications

error leads to defects, which lead to failures.

not all errors mean the same to everyone, there is often a grey area.

### Effect of failure

Loss of money

loss of time

loss of reputation

injury

death

### testing and risk

risk inherent in software

aim is to minimize.

uncertainty rises as complexity increases.

amount of testing depends on the software.

## Mine

Is it evaluated well enough already, can programs avoid crashes and bugs completely?

Why did it fail? Was the machinery sufficient? Did I push the system past its limits. Did the developer explore the limitations sufficiently?

Even if a program is pushing limitations should the programmer allow it to crash completely or should the programmer put safeguards in place to throttle the memory usage little by little to allow the system to recover.