

Core Concepts: Entropy

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February 4, 2022

Last Modified: 2022-02-04

Abstract

Examining the core concept of entropy.

Without the input of effort things tend to decay.

My home requires constant attention. The garden requires attention (at minimum to stop it becoming an overgrown wilderness that would prevent me getting to the front door). Inside it needs regular cleaning and periodic maintenance. If a home is lived in it will degrade without someone maintaining it.

IT systems suffer a similar fate. Without a constant input of effort systems will degrade as changes are applied. This is commonly called ‘bit rot’ in software circles. The proposition is that without taking time to focus exclusively on opposing this entropy our system will degrade, eventually resulting in higher costs to change and maintain the system or worse catastrophic failure.

The essential point being ‘focus exclusively’. This is a central tenet of agile methodologies. Refactoring is a separate activity to development (new features) or correction (bug fixing). The principal objective of refactoring is to take a piece of existing code and improve it *without changing its function*.