openHPI Course: Blockchain – Revealing the Myth

Introduction: Blockchain

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Blockchain Definition

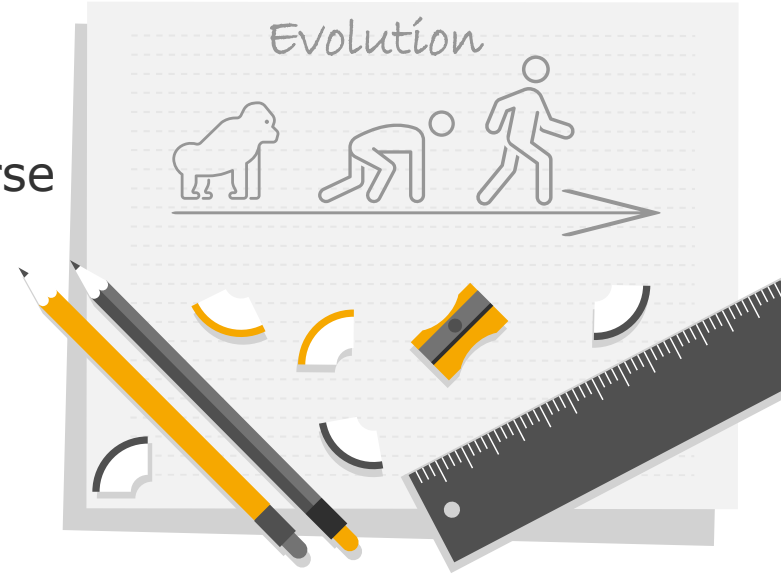
The **blockchain** phenomenon has been around for 13 years

- Birth of the technology was 2008 with the paper:
  - "*Bitcoin: A peer-to-peer electronic cash system*" by **Satoshi Nakamoto**
- Even today the term blockchain is still ambiguous
- Let's consider **what we know** about blockchain so far?
  - a chain of blocks with data
  - somehow related to Bitcoin
  - a lot of hype associated with technology
  - …

Blockchain Definition

In fact, the term **Bitcoin existed before** the term **blockchain**

- **Blockchain** as a term was first used when new Bitcoin-like projects were started
- **Describe the technology concept** and distinguish from the application of Bitcoin
- In this course we will
  - start with the **basics of blockchain**
  - gradually try to define the term
  - enhance our definition during the course
  - explore how the term has evolved



Blockchain – Revealing the Myth
Course Overview – First Week (1/2)

Our openHPI course is all about the topic:

Blockchain, its origins, goals, development path, and stumbling blocks encountered along the way

We start with taking a look at the **initial idea of blockchain and how it works**:

- The fundamental problem that led to the creation of Bitcoin
- The complex solution of Bitcoin
- The building blocks of Bitcoin in detail

Then, we will examine the evolution from a decentralized ledger to a world computer:

- Post-Bitcoin blockchains and the world computer

Blockchain – Revealing the Myth
Course Overview – First Week (2/2)

- You will need an initial knowledge of the topics already mentioned in the course description, namely
  - **basics of cryptography** (hash function and public key cryptography) and
  - **decentralized networks**
- You still have the possibility to get this knowledge by following the compact courses we have prepared for you: Link (also in the course details under "Additional resources").

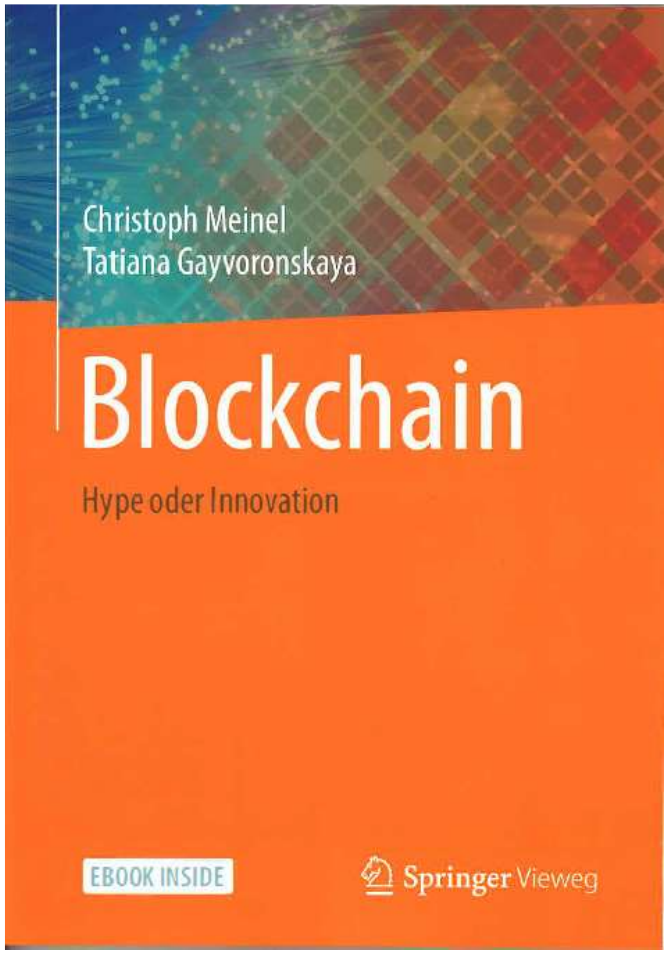
Blockchain – Revealing the Myth
Course Overview – Second Week

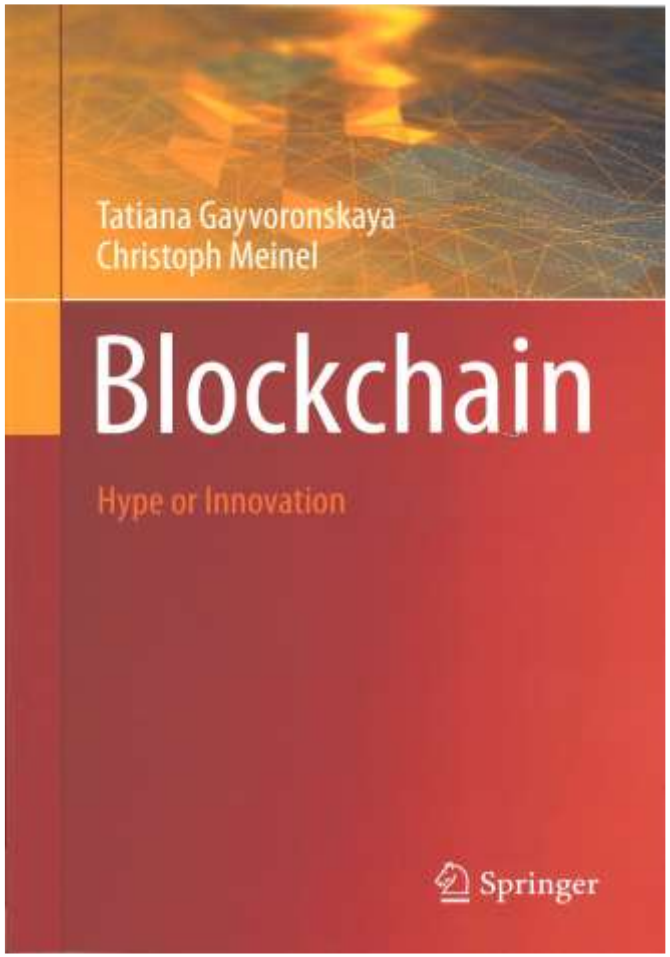
With **our understanding** of blockchain technology developed in the first week, in the second week we address the debate about **blockchain alternatives** and the **accompanying challenges** (the so-called scalability trilemma):

- Private Permissioned blockchains
- Scalability, Decentralization, Security

After the discussion of alternatives and the challenges involved, we look at the **possibilities of implementation** and some **best practice examples**, i.e. **projects** that have been **successfully implemented**

Literature for openHPI Course on **Blockchain – Revealing the Myth**





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