Contents

*BlockDom:* ***potential*** *name of the protocol*

1. **Introduction**
   1. Background
   2. Aims and objectives
   3. Thesis overview
2. **Literature review** 
   1. Data storage for decentralized DNS
   2. Blockchain DNS and PKI
   3. Blockchain based DNSs
      1. Namecoin
      2. Blockstack
   4. Sharding in blockchain
   5. Current issues *(with existing proposals)*
3. **BlockDom**
   1. What is BlockDom *(overall architecture)*
   2. Compared to other popular blockchains *(Bitcoin and Ethereum)*
   3. Fundamental components
   4. Clients
   5. Wallets
   6. Transactions
      1. Transaction life cycle *(creating - broadcasting - propagating)*
      2. Structure of a transaction
      3. “Searching” smart contract
      4. "Poor" transactions *(domains that don't exist in the blockchain)*
   7. The network
      1. Sharding architecture
      2. Node types and roles
      3. Network discovery *(join - leave)*
   8. The Blockchain
      1. Structure of a block
      2. Genesis block
      3. Adding blocks to sub-blockchains
   9. Consensus
      1. Principles of decentralized consensus
      2. Consensus in sharded blockchians
      3. Validating domains and append them to the blockchain
4. **Testing and evaluation**
5. **Conclusion and perspectives**
   1. Conclusion
   2. Feature work