Smart Contracts: Interfacing Javascript With English Contract Law

Why?

- Funding SME's in Hong Kong

- Event driven loans

- Borrower understands the terms of the loans

- Automatic bundling and analysis of loans

- https://github.com/joequant/bitquant
- This talk focuses on the coding parts
- Also able to talk about legal and finance parts

Who?

- Bitquant Research Laboratories (Asia) Limited
  - Coding and finance
- Crypto-Law (http://www.crypto-law.com/)
  - Legal and platform

What people get wrong with smart contracts

- Smart contract wedded to a platform

- Contract not really a legal contract

- Not used for real deals

    - Two loans issued

The contract – TermSheet.js

- Boilerplate is English common law
  - Operating system
  - Exception handling
  - Used all over the world
- Schedules are in javascript
  - Web designers
  - Legal reasons
  - Integration into web frontends
- Contract execution
  - Md5sum hash on paper

Why Javascript?

- User demand

- Contract understanding

  – Coders understand javascript

  – Non-coders can use HTML frameworks

Why English common law?

- Common law (England, Hong Kong) = Javascript

- Civil law (Germany, Mainland China) = Java

- Common law has various implementations like javascript, and can be used to prototype

- Civil law requires a 'virtual machine' – i.e. the civil code, which is hard to port

Other parts

- contract_analyzer.html – This file **analyzes** the contract but is not part of the contract. The user can bring in their own analysis problems

- LoanCalculator.js – Subroutines for the analyzer

- Notes.js – Explanation of the contract in plain English. Warranty document with ordinary borrower

Coding issues

- Module should be platform independent

- Minimize code in the contract

- No comments in the contract

- Certain phrases should not be used
  - default

Other unique parts

- All amounts calculated in HKD
- Principal paid in HKD
- Interest in XBT

IP issues

- Lawyers don't think about this issue and IP culture is odd for programmers

- It's different in different jurisdictions. HK/Australia is different from UK/US

- Meta issues

- Assignment of copyright bootstrap

- Template is open source