

## Monnaies numériques

ESILV 2018/2019



# Agenda

**TD7: Ethereum** 



# Creating a ticketing system

# **Concerts ticketing**



- A lot of tools exists today to facilitate the relationship between artists and their audience
  - Bandcamp/Society6 to sell mp3/merch
  - Distrokid/CD Baby to distribute digitally their music
  - Facebook/Instagram to promote content
- However, there are still few tools to help artists sell tickets for concerts
- This is true for smaller and bigger artists.
   Platforms like ticketmaster take a massive commission, sometimes up to 30%
- Your task is to design a ticketing system allowing an artist to sell their tickets directly to their audience



# Tools

#### **Truffle V5.0**



- Update your version of Truffle!
- Npm uninstall –g truffle
- Npm install –g truffle
- Switching to Solidity 5.x . See breaking changes here

https://solidity.readthedocs.io/en/v0.5.0/050 -breaking-changes.html

#### **Truffle testing**

- Launch truffle on the desired network
- Run « test » command to run the js scripts in the test/ folder
- Run « test test/test\_name.js » to run a single test file
- Functions prototypes for the TD can be found in the test routines written by the teacher
- <a href="https://github.com/l-henri/truffle-testing">https://github.com/l-henri/truffle-testing</a>





### Tasks lists

#### **Tasks list**

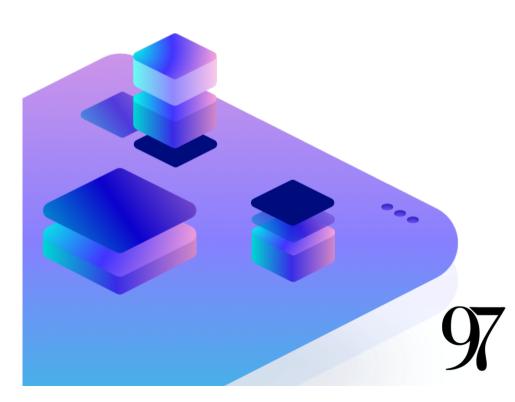
- Create a Git repository & share it with the teacher
- Create a ticketing contract (2 pts)
- Create function to create/modify an artist profile (2 pts)
  - Name
  - Artist type
  - Total tickets sold
- Create functions to create/modify a venue profile (2 pts)
  - Name
  - Space available
  - % of ticket price going to venue
- Create a concert object (2 pts)
  - Include date of concert
  - Include artist and venue id
  - A concert object can be created by anyone
  - Before happening, a concert needs to be validated/confirmed by the artist and the venue

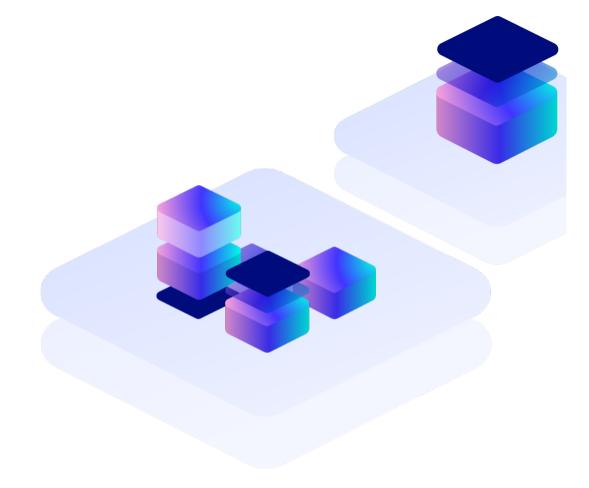
#### Tasks list

- Create functions to emit tickets and use tickets (2 pts)
  - Artists can emit tickets that they own
  - Ticket owner can use tickets in the
     24h before the concert
- Create functions to buy and transfer tickets (2 pts)
- Create a function for the artist to cash out after the concert (3 pts)
  - Make sure the concert has passed
  - Split the money between artist and venue
- Create a function to safely trade ticket for money (3 pts)
  - Forbid selling the ticket for more than it was bought
- Create a function to redeem distributed tickets (3 pts)
  - Tickets can be created but not sold
  - Users must be able to redeem their tickets with a chain of characters

### Merci

pour votre attention!





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