# On the Block

Get **SMART** with your rental contracts.

Group 5
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# On the Block

**On the Block**, our Ethereum-based decentralized application, is a streamlined payment portal which can be used to set up timely, recurring rental payments.

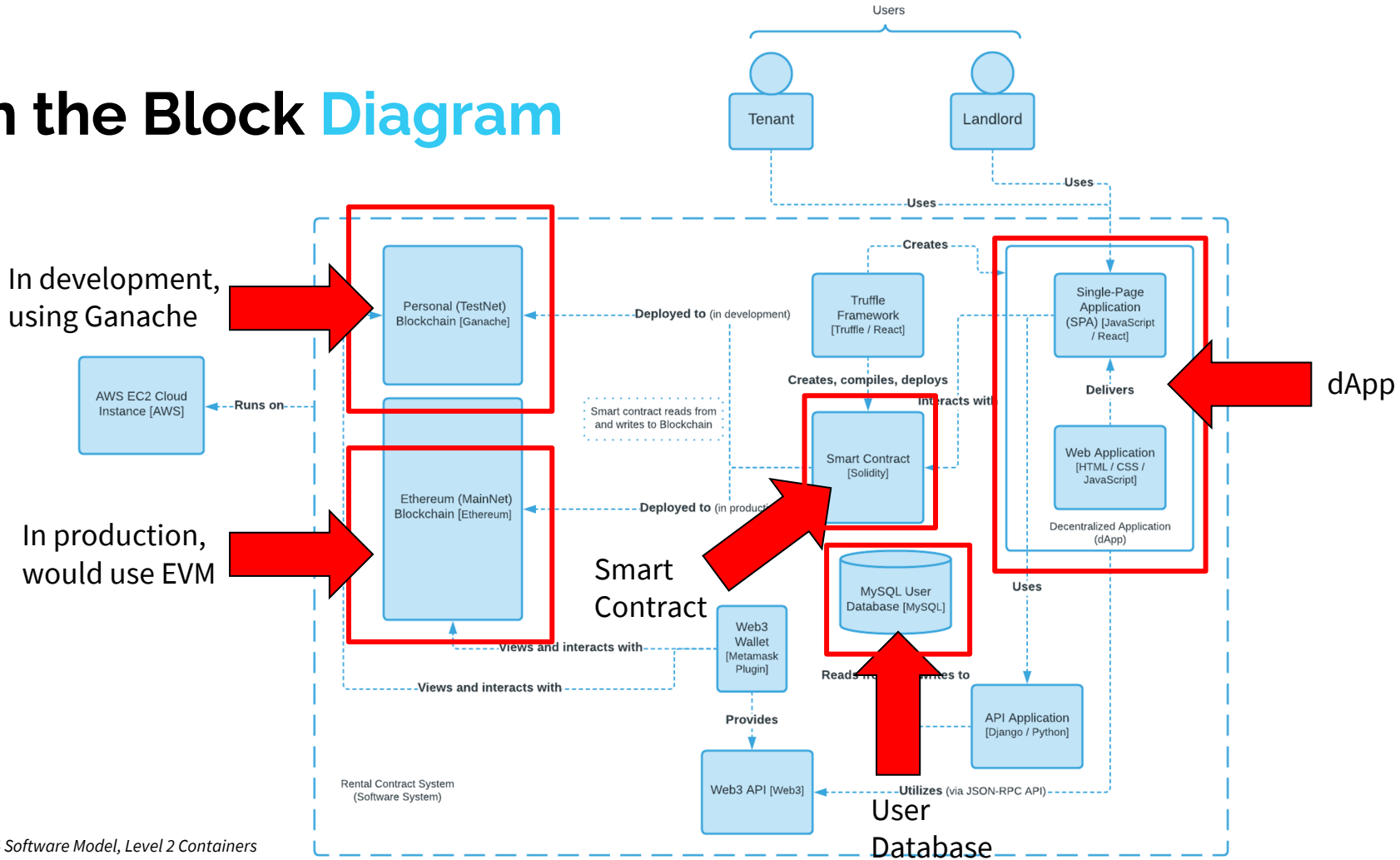
## Problem

Real-world rental contracts often go through a third party intermediary to exchange payment from the tenant to the landlord, which leaves room for error with safety, security, and fairness.

## Solution

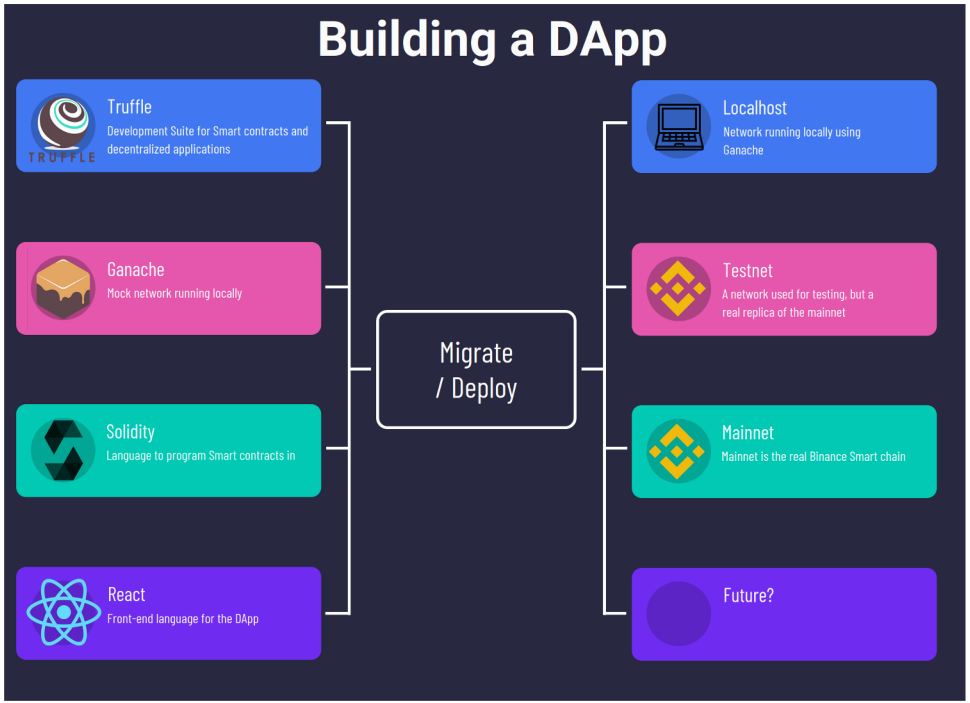
Landlords and tenants will be guaranteed **a quick, safe, and fair contract.**

# On the Block Diagram




*From C-4 Software Model, Level 2 Containers*

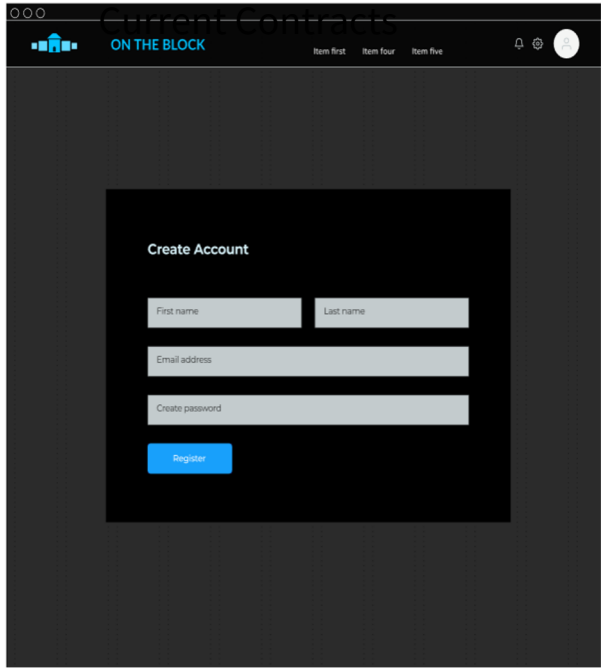
# Front-End dApp Development



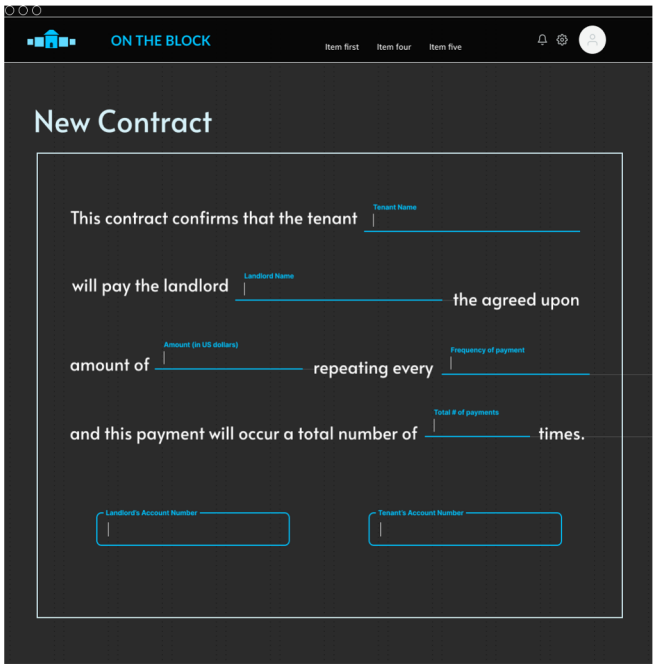

1. Register/Login Page
2. Start a New Contract Page
3. Display Awaiting Contracts Page
4. Display Current Contracts Page
    - With functionality to terminate any current contract
1. User Settings Page
2. User Notification Page

# On the Block Pages

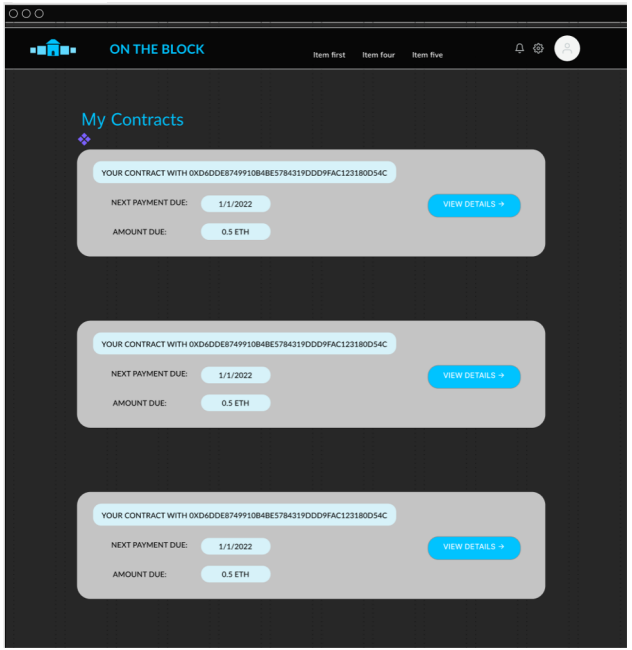
Register / Login to On the Block




Start a New Contract




Display



# Back-End Smart Contract Development

1. Set Up Truffle and React Framework

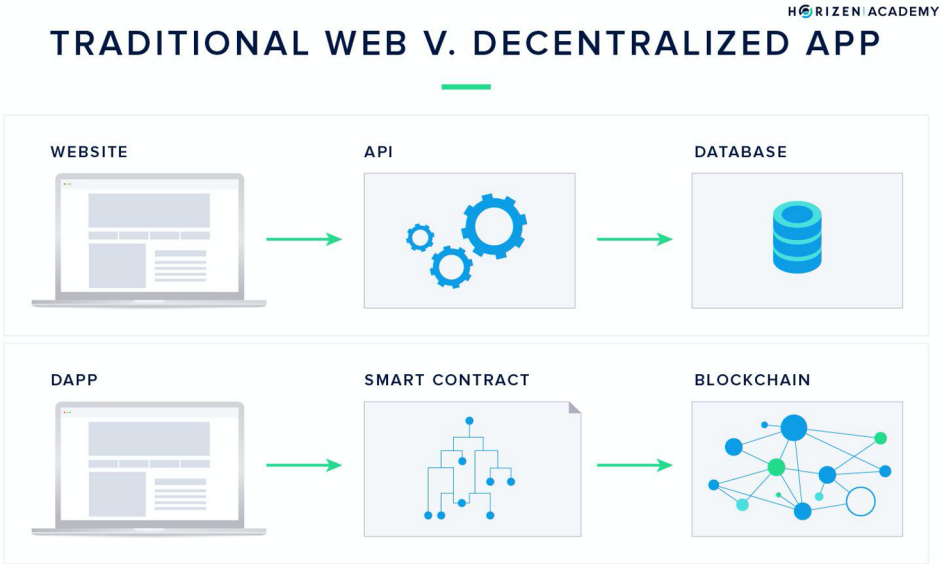
| | |
|---|---|
| Truffle-config.js | Configuration file that contains information such as development network settings |
| Contracts | Smart Contract (Solidity) files |
| Migrations | JavaScript files that help you deploy contracts to the Ethereum network |
| Tests | All test files (Solidity and JS) |
| Client | Client-side, front-end files |
| Src | App.js and other JavaScript files, json contracts |

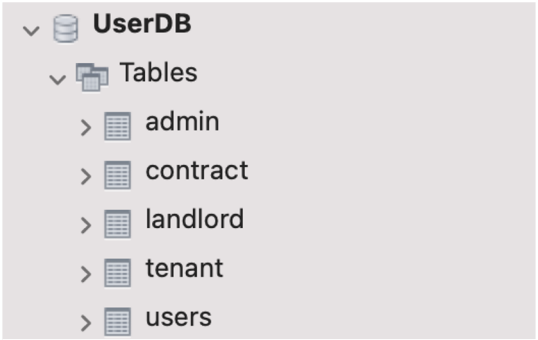
1. Set Up Ganache Personal Blockchain, running on the Testnet (not the EVM)
2. Truffle Develop, Compile, Migrate

| | |
|---|---|
| Develop | Open a console with a development blockchain |
| Compile | Compile contract source files |
| Migrate | Run migrations to deploy contracts |

# User Database

Our MySQL user database contains all information that cannot be stored on the Blockchain.




USERS

| accountID | firstname | lastname | username | password | usertype | registrationtime |
|---|---|---|---|---|---|---|

LANDLORD

| accountID |
|---|

TENANT

| accountID |
|---|

ADMIN

| accountID |
|---|

CONTRACT

| contractID | contractstatus | landlordAddr | tenantAddr |
|---|---|---|---|

# On the Block Demo

# On the Block Next Steps

1. Further integrate front-end dApp and back-end smart contract/database
2. Finish additional pages for additional features, with each user seeing different pages/actions
3. Query the blockchain to display and terminate a user's contracts (Web3 & GraphQL if needed)
4. Implement privacy and security functionality
5. Implement timer functionality to ensure repeated transactions within contract
6. Implement on-chain initial contract set-up with off-chain repeated transactions

# On the Block Upcoming Features

Check Existing Rental Contracts

Set Up Timely Recurring Payments


Get Easy Notifications and Alerts

Terminate Existing Contracts

# Thanks!
# Questions?