



# COMMUNITY DAY

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# BEST PRACTICES: ENTERPRISE BLOCKCHAIN PROJECT DEVELOPMENT

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# MAJOR CHALLENGES OF BLOCKCHAIN TECHNOLOGY

## SCALABILITY & INTEROPERABILITY

- **No exchange**  
between blockchains
- **91% of new apps**  
are built on 2 or 3 chains
- **73% of projects**  
said they are facing scalability issues

## DEVELOPMENT COMPLEXITY

- **100+ protocols**  
with different complexities and nuances
- **4 or more**  
programming languages to learn
- **3 months**  
to build a smart contract

## TALENT SCARCITY

- **Up to \$450,000**  
Annual salary
- **66 days to hire**  
and 2 months to onboard
- **Only 18,000**  
developers in the world know how to code  
on blockchain



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# LACK OF RESOURCES

## Blockchain Projects

- Put internal team to the side
- Hire expensive external developers
- External developers skills below average

## Everyone Else

- Utilizes internal team
- Trains team & provides proper developer tools
- Uses external experts to validate & mentor

## BEST PRACTICE

**GIVE YOUR EXISTING TEAM A PROPER BLOCKCHAIN DEVELOPMENT  
FRAMEWORK & AN EXPERT TO OVERSEE**



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# WHAT IS A DEVELOPMENT FRAMEWORK?

Development frameworks are tools and libraries other developers have created to make developing in a particular technology easier.

## Benefits:

- Easier development process
- Easy onboarding
- Reduced coding time (TTM)
- Improved security
- Better app maintenance



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# DIFFERENT PROGRAMMING LANGUAGES

## Blockchain Projects

- Each blockchain has a programming language used to interact with it (Cardano, Solana, Polygon, etc.)
- Team must be qualified in a particular language
- Vendor lock to the specific blockchain

## Everyone Else

- Interacts with a technology using language of choice
- Does not change language with every new technology
- Tries to avoid vendor lock

## BEST PRACTICE

**USE A DEVELOPMENT FRAMEWORK TO ABSTRACT YOU FROM THE  
SPECIFIC BLOCKCHAIN PROGRAMMING LANGUAGE**



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# WHAT ARE BLOCKCHAIN DEVELOPMENT SPECIFICS?

Each blockchain works differently internally. As a developer, you must understand how it works to avoid the wrong implementation of your app.

## Typical differences

### Reading Data

- Different structures or format
- Different logic
- Different interpretation

### Features

- Some show NFT's on wallet - others can't
- Some show token balance on an address - others can't

### Transactions

- Different ways of signing
- Queuing transactions (nonce management)
- Different behavior due to speed of transactions & their finality





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# BLOCKCHAIN IMPLEMENTATION SPECIFICS

## Blockchain Projects

- Each blockchain has its own specifications
- Developers need to understand specifics
- Vendor lock to the specific blockchain

## Everyone Else

- Standardized technology across different solutions
- Developers don't need to know specifics; code multi-chain by default
- Tries to avoid vendor lock

## BEST PRACTICE

**USE A DEVELOPMENT FRAMEWORK TO UNIFY ACCESS & ABSTRACT  
YOU FROM THE SPECIFIC BLOCKCHAIN IMPLEMENTATION**



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**"OH NO! WE CHOSE THE  
WRONG BLOCKCHAIN!"**

**WHAT NOW?**



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# BUILDING FROM SCRATCH

## Blockchain Projects

- Everyone is building from scratch
- Reinventing the wheel extends projects 5-10x
- Usually takes 2-3 failures to get it right

## Everyone Else

- Existing developer stack provides pre-built & tested features
- Developers can immediately leverage
- Quicker time-to-market
- Less bugs & security issues

## BEST PRACTICE

USE A DEVELOPMENT FRAMEWORK TO LEVERAGE BUILT-IN,  
BATTLE-TESTED FEATURES - SAVE OVER 90% OF DEVELOPER TIME





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# SCALING - SOMEONE IS USING YOUR APP!

## Blockchain Projects

- Most can't scale & under-serve or die
- Developers are scaling too early (expensive) or have to change the entire code later
- Web3 space can't handle the peaks

## Everyone Else

- Existing developer stack has built-in scaling capabilities
- Code is ready to scale
- Involves changing architecture & a bit of code
- Scale on-demand

**BEST PRACTICE**

**USE A DEVELOPMENT FRAMEWORK TO LEVERAGE BUILT-IN SCALING**



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# WHAT ARE THE ISSUES WITH SCALING AN APP?

## Typical issues:

### Blockchain protocol limits

- Limited throughput
- All on-chain = Expensive
- Solution: Off-chain

### Blockchain node limits

- Wrong data - reworks
- Serving empty data results
- Crashing under the load
- Solution: Data caching

### Transactions

- Additional transactions require advanced transaction & fee management
- Solution: Tatum KMS



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# UNIFIED FRAMEWORK FOR BUILDING BLOCKCHAIN APPS

TATUM

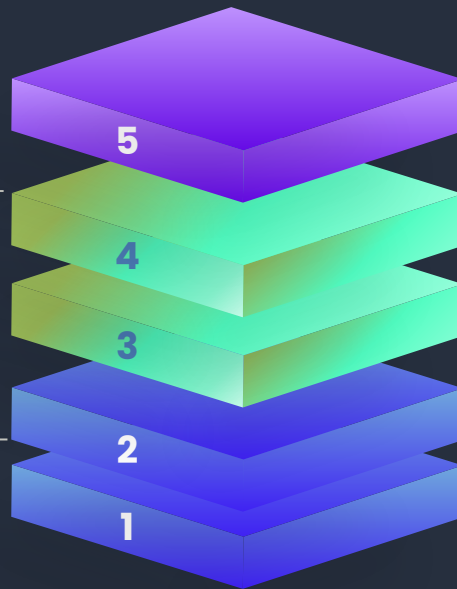
5. Applications

4. Tooling Kit: SDK, KMS, etc.

3. Abstraction Framework

2. RPC Nodes & Endpoints

1. Blockchain Protocols





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# GLOBAL NFT MARKETPLACE IMPLEMENTED IN RECORD TIME

Award Pool is an integrated Web3 platform that empowers brands, creators and collectors to create, collect, and trade unique experiences, collectibles, and payments securely.

Scaled from

**FROM 0 TO 200,000**

users within weeks.

**2 HOURS**

to add new blockchains

**95% COST SAVINGS**

using Tatum's unified framework

**Minting thousands  
of NFTs per hour.**



**AWARDPOOL**

**REUVEN COHEN**

Co-founder & CEO

"I've tried several different APIs and blockchain development frameworks. I found Tatum to be the most flexible and easy to work with. We build everything using Tatum."

Available on

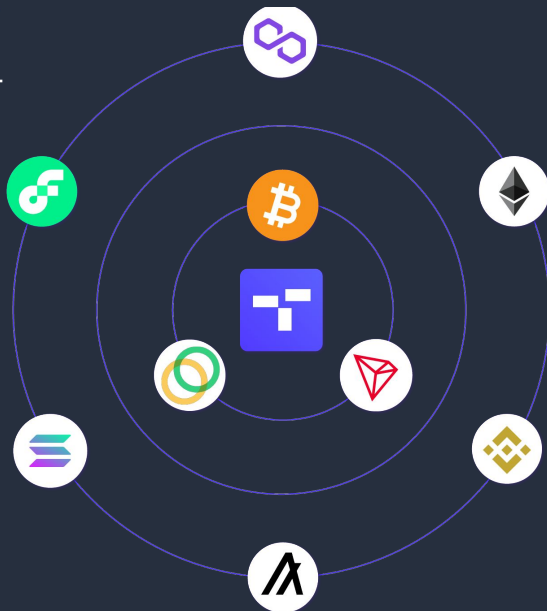


**TATUM**



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# POWERING OVER 100,000 WEB3 PROJECT

that scales **Web3**  
development

60+

Supported  
Protocols

1 unified  
SDK

600+

Advanced  
Features







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# OUR STORY

Started in 2017, Tatum is today the most used blockchain developer tool in the world



**Finalist** of  
TechCrunch  
Disrupt 2021



# Visit [tatum.io](https://tatum.io)

## 2,500x

**Usage growth** in past  
12 months

## 100,000+

customers are using  
Tatum around the world

## 55+

Tatumers with HQ in  
**Miami (USA)** and  
global offices





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**HAVE YOU SIGNED UP YET?**



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# Thank you!

See you at the AWS Community Day Pune 2023

