



Hyperledger Mentorship Project Presentation

August 2020

Making Data Model Modular for interoperability with other projects

› Introduction

- › **Name:** Utsav Jain
- › **Location:** India
- › **University:** National Institute of Technology, Jalandhar
- › **Mentor(s):** Mikhail Boldyrev, Andrei Lebedev
- › **Hyperledger Project:** Hyperledger Iroha



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› Project Description: Iroha

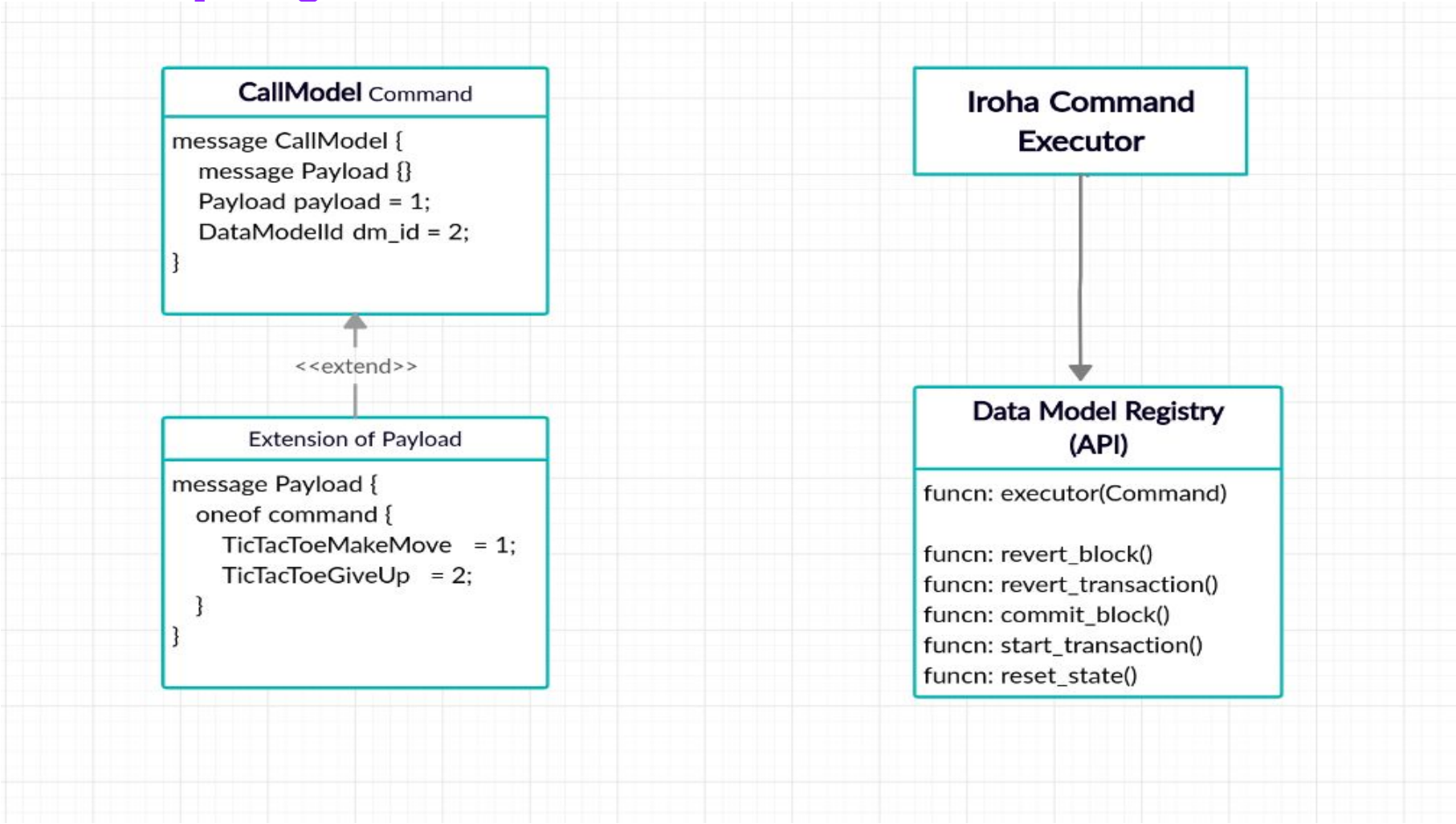
- WSV of iroha holds information about a hard coded default Data Model.
- These assets and accounts are basically accessed with the help of predefined set of commands and queries which are hard coded into iroha using C++.
- Data Model is a business model abstraction which can deal with entities including and other than assets, accounts and domains.

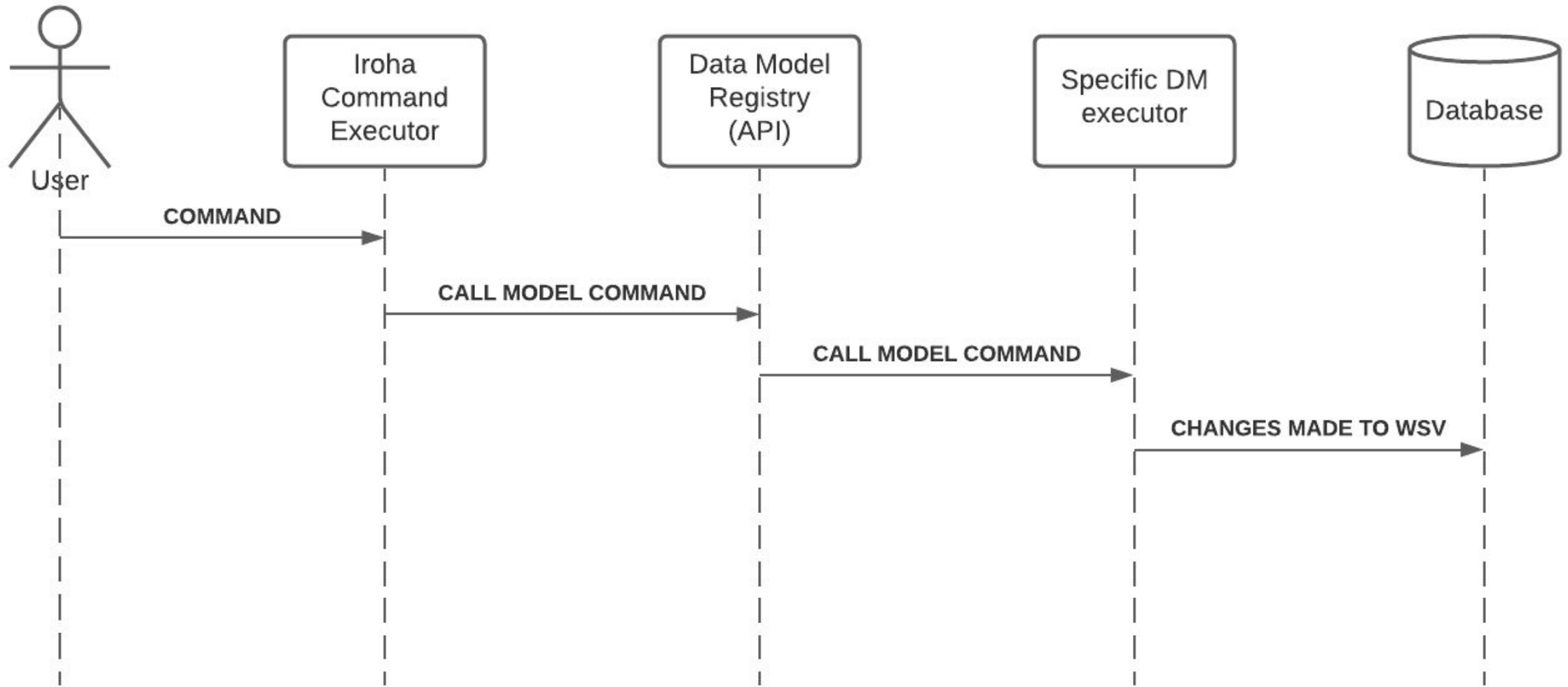
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› Project Description: Working

- The working of the project is basically based upon transparent extensibility of iroha messages i.e a protobuf message can be parsed with a subset of its fields.
- So for a generalised command Iroha parses a subset related to the execution flow till the data model, and specific data model parses the rest.

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› Project Objectives:

- › Obj 1: Implement a new generalised CallModel command.
- › Obj 2: Implement an API which could parse the command to its specific data model adapter.
- › Obj 3: Implement a command which could help us to enable a specific data model in iroha registry.

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› Project Deliverables:

- › Deliverable 1: Updated the iroha code with the new command.
- › Deliverable 2: Implemented a data model registry which serves as an API
- › Deliverable 3: Implemented the interface side of the queries.
- › Deliverable 4: Implemented a command to enable a new data model.

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› Project Execution & Accomplishments:

- › All the deliverables except query processing part were accomplished.
- › Most challenging part was to understand codebase and figure out how different components are linked.



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› Recommendations for future work:

- The queries part should be implemented.
- Strictly requires use of protobuf if possible should be extended further than that.

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› Project Output or Results:

- <https://github.com/hyperledger/iroha/pull/597> - The implementation of CallModel command.
- The working demo could be seen at <https://www.youtube.com/watch?v=kXJ5FZAcR8o> from timestamp: 9:20
- Architecture doc-https://docs.google.com/document/d/1_DtB9UIKNXD76ojql5L8rANeLtWWTPsn3Veb4UAXNC8/edit#

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› Insights Gained:

- Being part of an **open source project** can help **you** improve your skills, you **learn** something new in almost every conversation and my ability to convey my thoughts increased a lot.
- Ask as much as questions there are before implementing.



A large audience is seated in a conference hall, facing a stage where a speaker is visible. The scene is overlaid with a blue geometric pattern of lines and dots. The text "THANK YOU!" is prominently displayed in the center.

THANK YOU!