Applying Event Sourcing in Online Facilitation Tool

Mohd. Anzar Alim[1*], Muzakkir Malik Khalid Parvez[2], Ajay Kumar Yadav[3], Saksham Chauhan[4],
Anam Sayyed[5], Kashif Baig[6], Imteyaz Shahzad[7]

[1,2,3,4,5,6,7]*Department of Computer Science Engineering, Anjuman College of Engineering & Technology, Nagpur,
India*

Abstract: **Online facilitation systems are Widely used by many industries to solve conflicts, perform brainstorming, explore ideas and domains can be fulfilled. While During a facilitation if the conversation is side-tracked, the facilitator may find it difficult to bring back the main topic in limelight. But facilitation knows the point where the online discussion got side-tracked. So if the facilitator somehow reverts all the responses of which are added after the point from where the conversation got side-tracked and gets back to the state where the conversation was going good. Then it would lead to a productive Conversation. That's where Event Sourcing comes into play. Which will help to achieve the objective of going back to the conversation. That is Getting the previous state back. This article will discuss Event Sourcing which we would implement Simply on facilitation tool and could help better have productive conversation online.**

Keywords: **event sourcing, online facilitation, temporal pattern.**

1. Introduction

Event Sourcing was first proposed as a pattern by Vernon Vaughn while studying and extending Eric Evans Domain Driven Design. The application of event sourcing becomes very hard when there are lots of states in a system.

2. Application

A common example of an application that uses Event Sourcing is a version control system. Such a system uses temporal queries quite often. There are various areas where event sourcing can be used

A. Decision Making

Event sourcing can help us to achieve temporal patterns. It's not just that we wanted to know the state of the world, but also the state of the world a month ago. This would help us to understand how the environment was earlier. Which then could be studied to help make better decisions in the future.

B. Recreation of State

Event Sourcing will help not only to trace the past but also go back to a particular state and to experience the environment of the past. In software whenever a bug appears it's hard to reproduce the exact error Because the software would probably have many states. So with event sourcing we can go back to the state when that error happened which will give developers a lot of insights which could help them to solve the issue.

Not all systems require event sourcing. There are different strategies to implement event-sourcing in a System. This article will show a very basic implementation of it in a facilitation tool.

3. Online Facilitation Tool

When people started to work remotely, they started to face various challenges, one of which is solving conflicts. People working on projects often get into conversations related to the topic. So this eats up all the precious time of the team which could be spent on developing the project. Various online facilitation tools are developed which could help to ease the conversations among the team. And a facilitator could easily facilitate the conversation making it short & productive.

Digital facilitation is a modern approach to organizational development that combines traditional live workshops with real-time virtual communication and asynchronous virtual collaboration. As a facilitator, it allows you to bring a large group of people together to collaborate on complex learning programs and organizational development processes.

4. Analysis

To implement event source we had to modify an existing system which seems an overload but is probably a one - time effort. The idea is basically to store not only data but also the actions. It is better to keep those event objects separate from the main database. The extra data that needs to be stored is the action itself and the time when that action is performed. A no sql database is recommended for the implementation.

In the facilitation tool there are some questions that are provided by the facilitator and facilitator facilitates the discussion around those topics. The member then adds their response. We can implement the event sourcing around the responses, so that we can re-create the state of responses of a particular time. As mentioned we need to store the action with the data, so simple actions from the responses would be

ADD RESPONSE: To add a response to a particular topic.

*Corresponding author: anzaralim@gmail.com

UPDATE RESPONSE: To update the response.

DELETE RESPONSE: To delete the response.

Table 1
Database for event sourcing

Time	Data Type	Operation	Data
1622971900521	Response	ADD	Obj{}
1622971913906	Response	DELETE	Obj{}

These are basic actions. look for table 1, which shows the event source database for the response whenever a response operation occurs. We store it like for Add operation:
ADD-RESPONSE;
DATA_TYPE: RESPONSE
Time: When the action had happened.
Data: The actual response object itself.

This way we would store all the states of the responses. When we want to recreate any state of responses. By querying all the data by a particular point and performing the operation one by one. We would reach any state of the responses

5. Result, Discussion and Conclusion

In this study we were able to create a simple model for event-sourcing taking an online facilitation tool as an example.

The use of event sourcing in the facilitation tool would help give great control to the facilitator in any discussion and have the power to bring a conversation back on track.

Event sourcing could help to analyze the thinking of members in a facilitation and could be used for other Business tools as well.

References

[1] Howspace, AI-powered digital collaboration tool.
[2] Martin Fowler, Capturing all changes to an application state as a sequence of events - event sourcing, December 2005.
[3] Martin Fowler, Summarizing various pattern that can use to answer about the state of an information in the past, February 2005.
[4] Think-tank, Revolutionizing enterprise engagement with their distributed stakeholders.
[5] GroupMap, Online real time Brainstorming tool.
[6] The Art of Facilitation: The Essentials for Leading Great Meetings and Creating Group Synergy.
[7] Hands-On Domain-Driven Design with .NET Core: Tackling Complexity in the Heart of Software by Putting DDD Principles into Practice Alexey Zimarev.
[8] Martin Fowler, Analysis patterns.