

Problem

The current problem with TimeML is that it produces annotated temporal graphs only revealing incomplete and limited information on times, events, and their relationships with one another.

This current implementation abstracts the temporal information of temporal graphs and restricts the user from understating the totality of the sequence of events taking place at a given time and place.

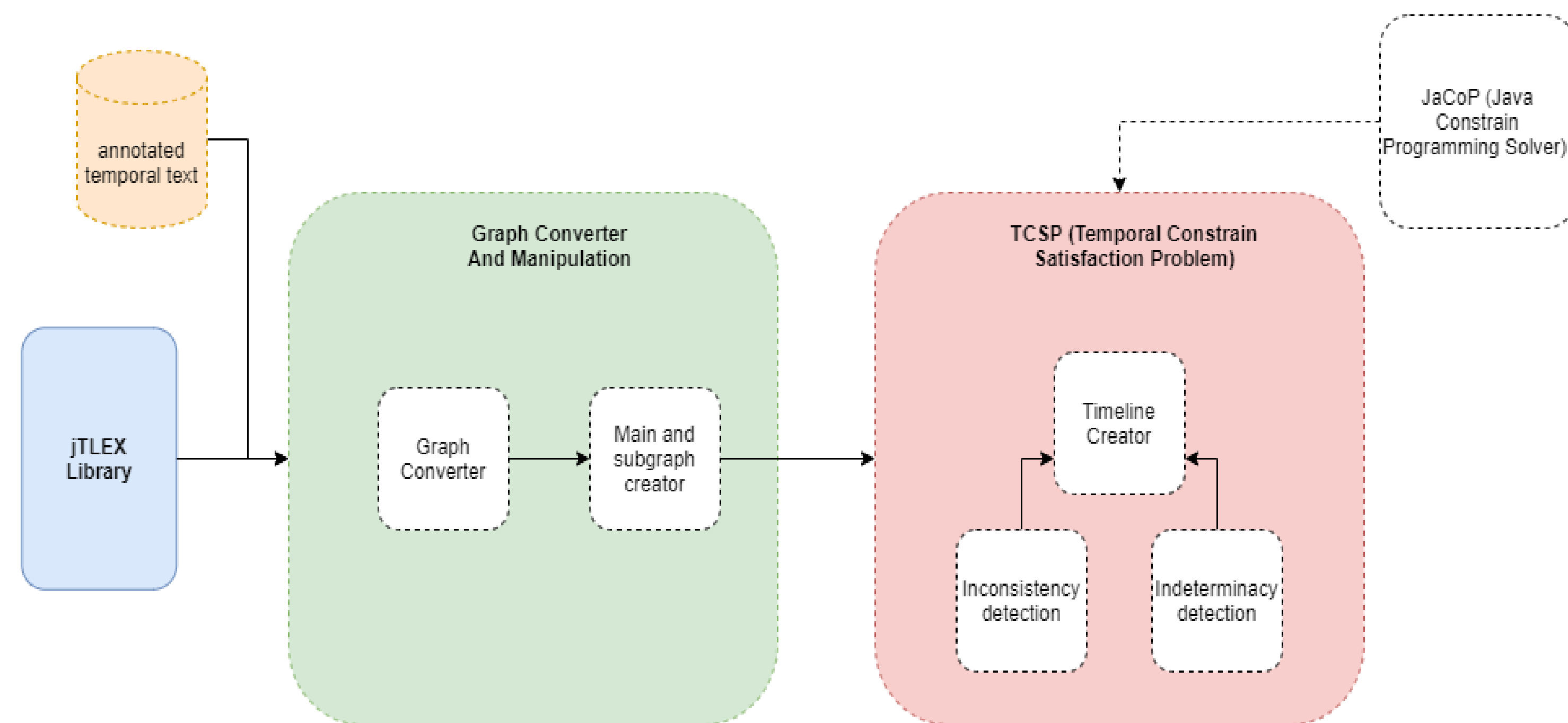
Current System

The current system now produces absolute full information of the events, times, and their relations. With the current system in place, jTLEX converts the annotated temporal text into a main graph which can be later subdivided into subgraphs known as subordinated graphs. A timeline data structure is used to represent the nodes and links in a more intuitive way to the user. This data structure is the component that fully presents the exact ordering of events and times. Detection of inconsistencies and indeterminacies is also a feature for the jTLEX java library.

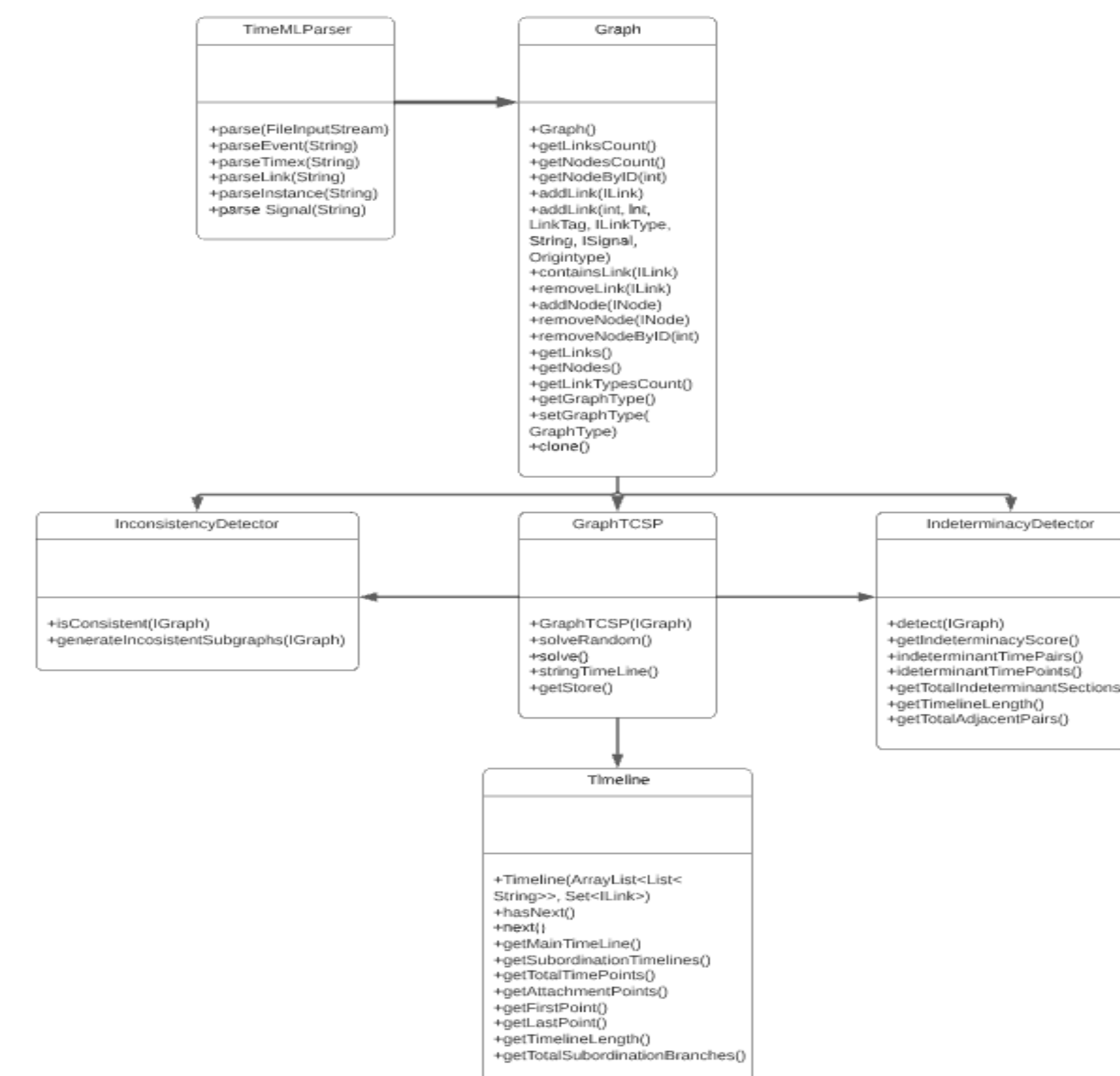
Requirements

As a user, I should be able to create temporal graphs using the jTLEX library. The graph can be converted to a TCSP problem and be solved using a library called JaCoP to resolve the problem. With the given output, users can identify any indeterminacies and inconsistencies. And lastly providing the best and most accurate representation of events in a timeline data structure

System Design



Object Design



Implementation

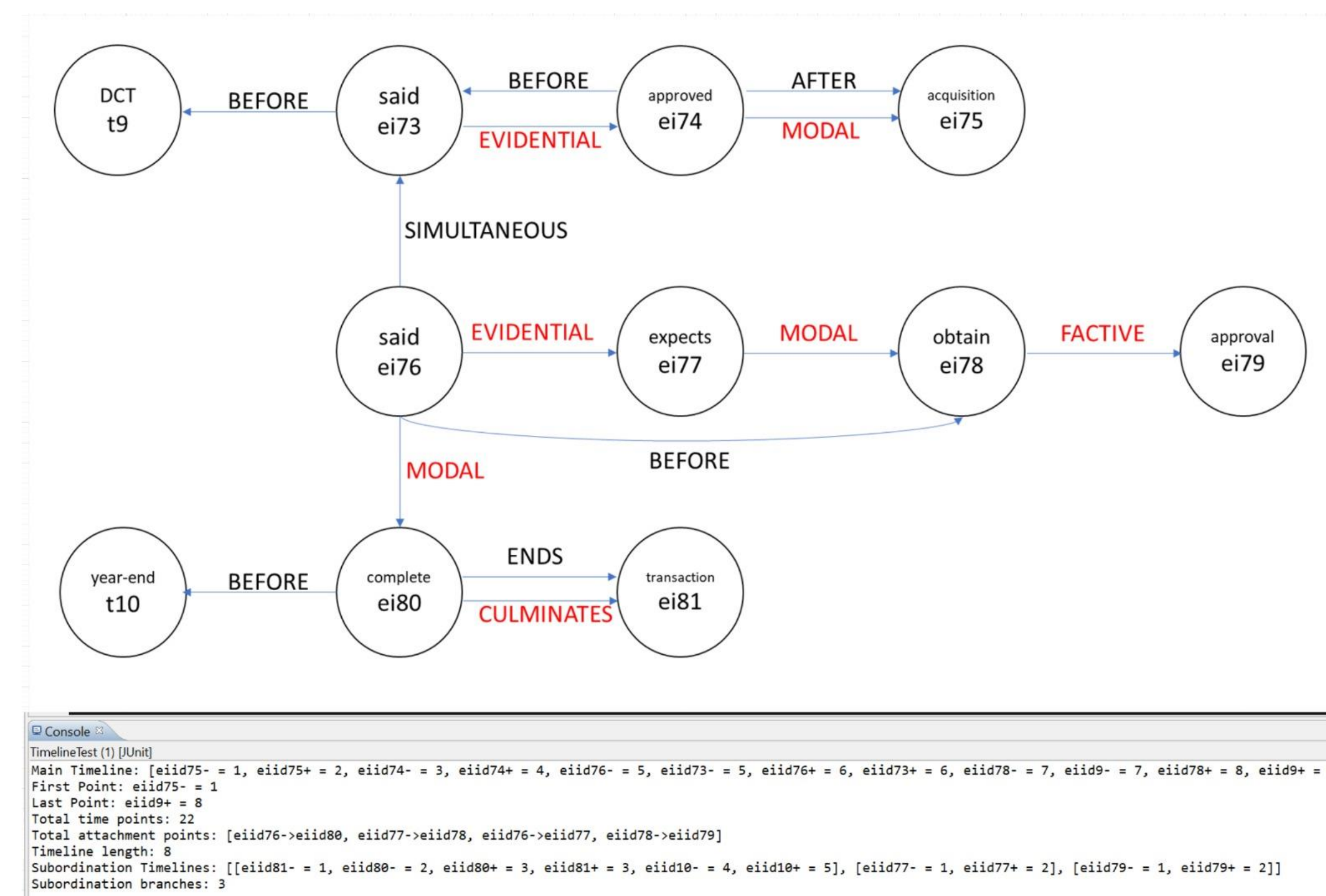
The implantation of the jTLEX library was possible using Java as our main programming language. For test units, the team used the JUnit testing framework to verify and ensure that all code was tested for before pushing it to the main branch of development. For communication and collaboration, the team used different tools such as Trello, SVN, and discord.



Verification

Test File	IndeterminacyDetectorTest.java
Purpose	Identify any indeterminacy within the timeline data structure
Preconditions	A well constructed main and subordinated graphs
Input	A temporal timeline
Expections	The indeterminacy detection method should find any indetrermiancies found in the timeline data structure. It should output indeterminate pairs and the total length of the timeline
Results	Pass
Test File	GraphTest.java
Purpose	Identify and assert that a temporal graph is created from temporal annotated text
Preconditions	Well constructed temporal annotated graphs
Input	temporal annotated text
Expections	Graph should be created successfully
Results	Pass

Screenshots



Summary

The jTLEX algorithm now creates more accurate temporal timelines showing a full picture of the events and time relationships for which the user can now gather better insights and create a more logical exact sequence of events.