Graphical Temporal Structured Programming

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1: Blue Yeti
2: LaBRI
3: PoSET

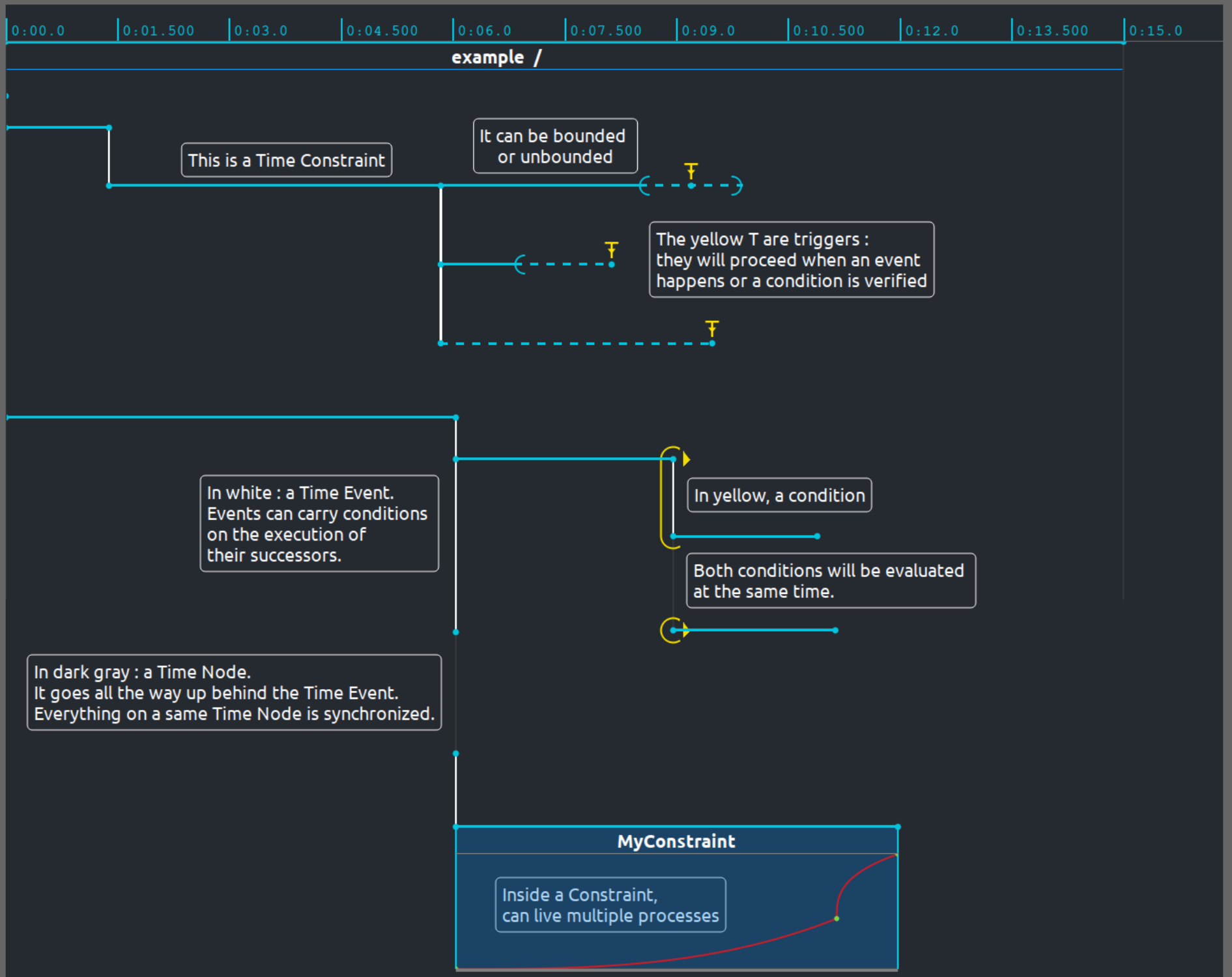
Position

Authoring interactivity ? When A then B : programming.
Code-first environments.

Inspiration

John Cage’s Two, Klavierstücke XI

Vocabulary


0:00.0
0:01.500
0:03.0
0:04.500
0:06.0
0:07.500
0:09.0
0:10.500
0:12.0
0:13.500
0:15.0
example /
This is a Time Constraint
It can be bounded or unbounded
The yellow T are triggers : they will proceed when an event happens or a condition is verified
In white : a Time Event. Events can carry conditions on the execution of their successors.
In yellow, a condition
Both conditions will be evaluated at the same time.
In dark gray : a Time Node. It goes all the way up behind the Time Event. Everything on a same Time Node is synchronized.
MyConstraint
Inside a Constraint, can live multiple processes

Playhead semantics

Loops

Data tree

Code

”Procedural”

”Event-driven”

Audio processes

- Soundfile reading.
- Real-time input.
- Effect chains (Faust, LV2 in-progress).
- Audiograph features
  $\rightarrow$ send and return from different points in the score.
- Mixing.

The i-score audio graph

Demo

`icmc.blueyeti.fr`

Future

- Integrated input recording.
- Real-time audio input delaying and reuse.
- Deep MIDI integration, piano roll, etc.
- Hierarchic temporal signatures.
- Spatialisation ?

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P. Baltazar, T. de la Hogue, and M. Desainte-Catherine, “i-score, an interactive sequencer for the intermedia arts,” in *Proceedings of the ICMC - SMC 2014 Joint Conference*, 2014.

S. Letz *et al.*, “The libaudiostream library, 2012.”

J.-M. Celerier, P. Baltazar, C. Bossut, N. Vuaille, J.-M. Couturier, and M. Desainte-Catherine, “Ossia : Towards a unified interface for scoring time and interaction,” in *TENOR: First International Conference on Technologies for Music Notation and Representation, Paris, France*, 2015.

J. Arias, M. Desainte-Catherine, and S. Dubnov, “Automatic construction of interactive machine improvisation scenarios from audio recordings,” in *The Fourth International Workshop on Musical Metacreation (MUME 2016)*, 2016.

T. De La Hogue, J.-M. Celerier, and P. Baltazar, “Présentation d’un formalisme graphique pour l’écriture de scénarios interactifs,” in *Journées d’Informatique Musicale*, 2016.

Links

- **i-score** : www.i-score.org

Thanks ! Questions ?

Uses the Beamer 'simple' theme, Facundo Muñoz; and Mozilla's Fira font family