A SIMPLE SUGGESTION ABOUT USING ZEITZEIGER “R” SOFTWARE & JVMR TOWARDS INTEGRATION OF “R” “JAVA” & “SCALA” TO PERFORM CIRCADIAN DATA PROCESSING.

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Abstract:

“Zeitzeiger is a package for regularized supervised learning on high-dimensional data from an oscillatory system. Zeitzeiger can quantify rhythmic behavior, make accurate predictions, identify major patterns and important features, and detect when the oscillator is perturbed.” We obtained inspiration from: https://github.com/hugheylab/zeitzeiger; https://dahl.byu.edu/software/jvmr/ to process circadian data. In this communication, we wish to highlight our intention to experiment with an R package like ZEITZEIGER and jvmr providing a cross-platform interface between R, Scala and Java.

Keywords: zeitzeiger, R, Java, Scala, JVM, jvmr, Circadian Rhythms
Introduction & Inspiration:

“Society and technology is constantly advancing, I mean look at all the smart and fitness watches we now have available. However, the latest way in telling time is now in a computer method called ZeitZeiger, which uses a sample of blood to accurately predict the time of day according to a person’s body clock. The research is described and published in the open access journal *Genome Medicine*.”

From: What’s the time Mr Body Clock? By Editorial Team May 8, 2017.

Source/s:

[a] https://www.eedesignit.com/whats-the-time-mr-body-clock/


Informatics Design & Implementation:

![Diagram](image)

**Figure 1 – Approximate Informatics Framework Illustrating Main Idea.**

Please Note: Most important references are [1] & [2]/Figures [1] &[2] to understand the communication/idea presented here. So readers are requested to study the papers for a better understanding. Actual implementations may vary, it is necessary to check all the requirements.
Future Plan Using HOL-Isabelle System/Scala/JVM Platform:

Conclusions with Future Perspectives:

Finally we conclude it was possible to design and test different ideas using “zeitzeiger” R software by interfacing with jvmr towards integration of “R”, “Java” & “Scala”. Further it is also possible to use HOL(Isabelle) -Scala System to design and develop excellent informatics framework to probe interesting, promising and challenging aspects of “Circadian Systems and Computation”.

Acknowledgement/s:

No competing financial interest/s is/are declared in preparing this manuscript. This manuscript is meant to inspire others to develop more advanced circadian software and its applications in this demanding area of sleep studies using novel methodologies. The Authors strictly abide by all copyright agreements in using open source software or other such technologies used in this paper. Special thanks to all who made this happen. We thank FAPESP R&D funding via Versor Innovations/Tech 4 People Project, Santo Andre, SP, Brazil for generously supporting our research work.
Information on Software used:

[a] https://github.com/hugheylab/zeitzeiger

[b] https://dahl.byu.edu/software/jvmr/

[c] https://isabelle.in.tum.de/

[d] https://www.r-project.org/

References:
