



The Mapping of the Logical Structure, Enact to the Engagement Structure of Enact.

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THE MAPPING OF THE LOGICAL STRUCTURE, ENACT TO THE ENGAGEMENT STRUCTURE OF ENACT.

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Extended Abstract*. This work researches on the fitness of logically mapping an enact structure to an engagement structure. In this mapping, a language of logical(L) engage(E) enactment(E) is described in the context of both logic and structures, LEE. An underscore language is created based on words like implies and is, An is_ language and implies_language of logical engage enactment are made in four sentences.

Keywords. enactment, composites, environment, abbreviation, model, logic, theory, language, sentence.

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1 INTRODUCTION

The engagement function[1] of enact has its structure: $enact(a_i, a_j, rank_i)$ where $i, j > 1$. The parameters of this structure takes two interest variables and one rank indicator. The logical structure of enact is represented as:

enact(a, l, t), where a: action, l:location and t: time.

The exact mapping of engagement, enact to a logical enact is represented as:

$$\begin{array}{ccc} enact(a_i , a_j , rank_i) . \\ \downarrow \quad \downarrow \quad \downarrow \\ enact(a, l, t) . \end{array}$$

Here, the interest a_i maps to action a, interest a_j also maps l and $rank_i$ maps to time, t. The physical dimensions of the structures does not work properly. This research looks at ways to addressing the issue by a language[6] in the context of engagement. The language of logical engage enactment describes the context of both logical an engagement structures:

- (a) $enact_E \rightarrow enact_L$,
- (b) $a_i \rightarrow a$,
- (c) $a_j \rightarrow l$,
- (d) $rank_i \rightarrow t$.

The language of the logical engage-enactment is:

- (i) The enact of business implies the enact of machinery, partonomy, interest, attention and more logic.

- (ii) The enact of business interest implies the enact of business action or event.
- (iii) The enact of business interest implies the enact of interest in a location.
- (iv) The enact rank of business interest implies the enact of the linear/temporal ordering of interest.

The *is_language* of the logical engage enactment(LEE^{is}) is:

- (i) The enact of business is the enact of logic.
- (ii) The enact of business interest is the implication of business action.
- (iii) The enact of business interest is in a location.
- (iv) The enact of business rank is based on temporal dimensions.

The *implies_language* of LEE(LEE^{\rightarrow}) is

- (i) $Enact_E$ implies $Enact_L$
- (ii) Interest a_i implies Action a
- (iii) Interest a_j implies Action in location l
- (iv) Rank interest $rank_i$ implies Ordering in temporal dimension t .

The linear ordering of the mapping LEE structures is as follows:

$$enact_E \rightarrow enact_L \rightarrow a_i \rightarrow a \rightarrow a_j \rightarrow l \rightarrow rank_i \rightarrow t .$$

Given $\alpha \rightarrow \beta$ can be abbreviated to $\neg\alpha \vee \beta$.

The LEE structures (a) to (d) can be abbreviated as:

- (a) $enact_E \rightarrow enact_L$ abbreviates to $\neg enact_E \vee enact_L$
- (b) $a_i \rightarrow a$ abbreviates to $\neg a_i \vee a$.
- (c) $a_j \rightarrow a$ abbreviates to $\neg a_j \vee a$.

(d) $rank_i \rightarrow t$ abbreviates to $\neg rank_i \vee t$.

The LEE structures now becomes:

(a) $enact_E \Leftrightarrow enact_L$

(b) $a_i \Leftrightarrow a$

(c) $a_j \Leftrightarrow l$

(d) $rank_i \Leftrightarrow t$

Given $\alpha \Leftrightarrow \beta$ can be abbreviated to $(\alpha \Leftrightarrow \beta) \vee (\beta \vee \alpha)$.

The double arrow $LEE(LEE^{\Leftrightarrow})$ structures now becomes:

(a) $enact_E \Leftrightarrow enact_L$ abbreviates to:

$$(enact_E \rightarrow enact_L) \wedge (enact_L \rightarrow enact_E) .$$

(b) $(a_i \Leftrightarrow a)$ abbreviates to $(a_i \rightarrow a) \wedge (a \rightarrow a_i)$.

(c) $(a_j \Leftrightarrow a)$ abbreviates to $(a_j \rightarrow a) \wedge (a \rightarrow a_j)$.

(d) $rank_i \Leftrightarrow t$ abbreviates to $(rank_i \rightarrow t) \wedge (t \rightarrow rank_i)$.

The LEE^{\rightarrow} structure can be read as:

(i) $enact_E \xrightarrow{\vec{r}} enact_L$: A run(τ) of an agent in an engaged environment is thus a sequence of inter-logic environment of states and actions.

(ii) $a_i \xrightarrow{\vec{r}} a_j$: A run of an agent by a sequence of inter-logic environment of states and actions in an engaged environment.

(iii) $a_j \xrightarrow{\vec{r}} L$: A run of an agent by sequence of inter-logic states and actions is localized in an engaged environment.

- (iv) $rank_i \xrightarrow{\vec{r}} t$: A state is initially ranked in an engaged environment before choosing an action to execute (run in a specific time).

The LEE^{\leftrightarrow} abbreviation structures can also be read as:

- (1) $enact_E \Leftrightarrow enact_L$: An $enact_E$ will exist to be true implies $enact_L$ is true and $enact_L$ existence is true implies $enact_E$ is true.
- (2) $(a_i \Leftrightarrow a)$: An interest a_i will exist to be true implies a_i is true and a hold to be true in existence implies a_i is existentially true.
- (3) $(a_j \Leftrightarrow a)$: An interest enaction, a_j is existentially true implies location exist to be true and location, l is very true in existence implies interest holding is truly in existence.
- (4) $rank_i \Leftrightarrow t$: A rank for interest will exist true implies a chosen priority in time holds to be true.

A run on LEE structure will consequent the following:

- (D) $enact_E \rightarrow enact_L \rightarrow a_i$
- (DI) $enact_L \rightarrow a_i \rightarrow a$
- (DII) $a_i \rightarrow a \rightarrow a_j$
- (DIII) $a \rightarrow a_j \rightarrow l$
- (DIV) $a_j \rightarrow l \rightarrow rank_i$
- (DV) $l \rightarrow rank_i \rightarrow t$.

2 RESULTS OF WORK

The formulas of propositional enactment[1, 2] consist of:

- (1) *propositional constants*; T and F.
- (2) *propositional variables*; a , a_i , a_j , l , t , $rank_i$, $enact_E$ and $enact_L$.
- (3) *propositional composites*;

Composites	Propositional
or-Composites	(i) $\neg enact_E \vee enact_L$ (ii) $\neg a_i \vee a$ (iii) $\neg a_j \vee l$ (iv) $\neg rank_i \vee t$
not-Composites	(i) $\neg enact_E$ (ii) $\neg a_i$ (iii) $\neg a_j$ (iv) $\neg rank_i$
and-composites	(i) $(a_i \rightarrow a) \wedge (a \rightarrow a_i)$ (ii) $(a_j \rightarrow l) \wedge (l \rightarrow a_j)$ (iii) $(enact_E \rightarrow enact_L) \wedge (enact_L \rightarrow enact_E)$ (iv) $(rank_i \rightarrow t) \wedge (t \rightarrow rank_i)$
implies-composites	(i) $enact_E \rightarrow enact_L$ (ii) $a_i \rightarrow a$ (iii) $a_j \rightarrow l$ (iv) $rank_i \rightarrow t$

\vee -composites are V-clauses of disjunctive literals. \wedge - composites are \wedge clauses of conjunctive literals. The literal is a logical constant or the negation of a constant or variable. Enactment logic[1] is the term for the formulas of the propositional enactment.

4 CONCLUSION

This section concludes work on research done in terms of LEE language. LEE is a logical engage enactment in abbreviation and a coined name[4]. The engagement function[4] is made from inspection of enact function[1] and its structural parameters.

Engagement function is a structure that takes variables of two interests and one rank. An exact mapping of engagement enact to logical enact is represented in this research. A four sentences of *is_* language is written to bring normal meaning to the whole language process. Again, four sentences of *implies_* language is also written.

A linear ordering of the LEE structure maps are generated. LEE , LEE^{\rightarrow} and LEE^{\leftrightarrow} abbreviations are generated with logical implication. A run is carried out on each LEE structures. In concluding remarks, four propositional composites of literal are made from enact and engagement functions.

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Conflict of Interest:

Author, Dr. Frank Appiah declares that he has no conflict of interest .

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