EasyChair Preprint

№ 4462

A Procedure Run on Engagement Functions and Behavior Relationships.

Frank Appiah

October 26, 2020

A PROCEDURE RUN ON ENGAGEMENT FUNCTIONS AND BEHAVIOR RELATIONSHIPS.

FRANK APPIAH.

KING' COLLEGE LONDON, CENTRE OF DOCTORAL STUDIES, ENGLAND, UNITED KINGDOM.

appiahnsiahfrank@gmail.com.

Extended Abstract[+]. A generalized enact functions are programmed as logic function with an enact program. This is executed to run the enact parameters against the enact facts described as engagement functions of enact. The behavior relationships of chain of commands are represented mathematically to create behavior dominance of agent interest.

Keywords. enactmen, agent parties, enaction, attention, enact, chain of command, dominance relation, behavior relationship, precedence relation.

Year of Study: 2013 **Year of Publication: 2020**

1 ***AFFILIATE. UNIVERSITY OF LONDON, KING'S COLLEGE LONDON, DEPARTMENT OF INFORMATICS, LONDON, UK.**

1 INTRODUCTION

The behavior relationships of the agent interest and attention is determined from the linear order of the enact functions of engagement. The engagement functions[2] of enact are:

(i) $enact\left(a_1, a_2, rank_1\right)$,

(ii) $enact\left(a_2, a_3, rank_2\right)$,

(iii) $enact\left(a_3, a_4, rank_3\right)$,

(iv) $enact\left(a_4, a_5, rank_4\right)$,

(v) $enact\left(a_n, a_{n+1}, rank_n\right)$: **Generalized Enact Functions.**

The engagement functions of enact can be read as:

(i) An enactment will run if the enact parameters are a_1 , a_2 and $rank_1$ respectively.

(ii) An enactment will run if the enact parameters are a_2 , a_3 and $rank_2$ respectively.

(iii) An enactment will run if the enact parameters are a_3 , a_4 and $rank_3$ respectively.

(iv) An enactment will run if the enact parameters are a_4 , a_5 and $rank_4$ respectively.

(v) An enactment will run if the enact parameters are a_n , a_{n+1} and $rank_n$ respectively.

2 ENGAGEMENT PROGRAM

The engagement program[1, 2, 3, 5] will run procedurally from (i) to (v). The enact function can be an assertion. That is a true or false evaluation.

PROGRAM

enact(A, B, C);

In executing the program, if the engagement functions (i) to (v) be evaluated on an enact parameter A= a_2 , B= a_4 , r= $rank_2$ then

enact (A= a_2 *, B=* a_4 *, r=* $rank_2$ *)*=**FALSE**.

It is false because B value is a_3 according to enact fact (ii) and not a_4 even though A and R have correct values.

A second execution on A= a_1 , B= a_2 , r= $rank_1$:

enact(A= a_1 , B= a_2 , R= $rank_1$)=**RUN**
enact(A= a_1 , B= a_2 , R= $rank_1$)=**TRUE.**

It evaluates to true because it matches the enact fact according to the engagement function of enact(i).

A second execution on A= a_1 , B= a_2 , r= $rank_1$:

enact(A= a_1 , B= a_2 , R= $rank_1$)=**RUN**
enact(A= a_1 , B= a_2 , R= $rank_1$)=**TRUE.**

It evaluates to true because it matches the enact fact according to the engagement function of enact(i).

A third execution on A= a_1 , B= a_2 , r= $rank_4$:

enact(A= a_1 , B= a_2 , R= $rank_4$)=**RUN**
enact(A= a_1 , B= a_2 , R= $rank_4$)=**FALSE.**

It evaluates to false because it does not again match the enact fact according to the engagement function of enact(i).

A fourth execution on A= a_2 , B= a_5 , r= $rank_3$:

enact(A= a_2 , B= a_5 , R= $rank_3$)=**RUN**
enact(A= a_2 , B= a_5 , R= $rank_3$)=**FALSE.**

It evaluates to false because it does not match the enact facts according to the engagement function of enact(i) to (v). A, B and R are all mismatch for the enact database.

3 BEHAVIOR RELATIONSHIP OF AGENT INTEREST

The linearizing ordering of the chain of commands[2] is as follows:

$$a_1 \overset{R_1}{\rightarrow} a_2 \overset{R_2}{\rightarrow} a_3 \overset{R_3}{\rightarrow} a_4 \overset{R_4}{\rightarrow} a_5 \overset{R_5}{\rightarrow} a_n \overset{R_n}{\rightarrow} a_{n+1}$$

There is an implication[7] row for $a_5 \rightarrow a_n$ ranked at the fifth position in the linear process. The behavior relationship[6, 8] can be represented by replacing the arrow with a < (less than) relation. The behavior relationship of the agent[3] interest and attention can be as:

$$a_1 < a_2 < a_3 < a_4 < a_5 < a_n < a_{n+1} \quad .$$

The behavior relationship of the agent interest are dominance relation and behavior dominance.

Dominance Relation	Behavior Dominance
(i) $a_1 < a_2$	Actor 2 has interest that dominates Actor 1's interest.
(ii) $a_2 < a_3$	Actor 3 has interest that dominates Actor 2's interest.
(iii) $a_3 < a_4$	Actor 4 has interest that dominates Actor 3's interest.
(iv) $a_4 < a_5$	Actor 5 has interest that dominates Actor 4's interest.
(v) $a_n < a_{n+1}$	Actor n+1 has interest that dominates Actor n's interest.

The dominance relation of the agent's interest and attention can be read as:

(i) Actor 1's interest value is less than Actor 2's interest.

(ii) Actor 2's interest value is greater than Actor 1's interest.

(iii) Actor 1's interest value is less than Actor 4's interest.

(iv) Actor 3's interest value is greater than Actor 1's interest.

(v) Actor n's interest value is less than Actor (n+1)'s interest.

$Dom := \{A^2 : <; a_{1,}\, a_2 \epsilon\, A\}$: Domain expression.

$DomSet := \{a_{1,}\, a_{2,}\, a_{3,} a_{4,} a_{5,} a_n, a_{n+1}\}$.

The chain of commands demands a precedence relation[3] for procurement enact. This can be written as:

Precedence Relation	Precedence Behavior
(i) $a_1 < a_2$	Actor 1's interest causes a precedence relation to Actor 2's interest. Actor 1 precedes before Actor 2 in command.
(ii) $a_2 < a_3$	Actor 1's interest causes a precedence relation to Actor 2's interest. Actor 1 precedes before Actor 2 in command.
(iii) $a_3 < a_4$	Actor 1's with interest, a_3 precedes before Actor 2's interest.
(iv) $a_4 < a_5$	Actor 1's having interest a_4 will precede before Actor 2 with interest a_5 .
(v) $a_n < a_{n+1}$	Actor 1's *n* interest causes a precedence relation to Actor 2's *(n+1)* interest. Actor 1 precedes before Actor 2 in command.

3 CONCLUSION

In conclusively remarks, the findings of this research includes the following:

- Agents now run an engagement program via enact function.
- Agents now ranks their actions in any engagement function of enact.
- Agents are now behaving in relation to their agent interest.
- Agents will find dominance in their behavior relationship.
- Agents has an art to act in accords with other actor.
- Agents action is a linear process.
- Actors in agency with less interest value will have less attention in relationship.
- Agents will now demand precedence relation to procurement enact.
- Actor in agency with higher interest will precede without the other.
- Actor in agency having higher interest will precede before the other.

Compliance with Ethical Standards:

(In case of funding) Funding: This is research is funded by King's Alumni Group, Association of Engineering with ISAreference grant number: 204424 20821845.

Conflict of Interest:

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

REFERENCES

1. Appiah F. (2009/10), RuleML for Policy Exchange in Agent Commerce, King's College London, Msc Dissertation.
2. Appiah F. (2013/20), A General Position of Enactment Paradigm: Phenomenon of Procurement Enact, Centre of Doctoral Studies, King's College London, England, UK.
3. Woodridge M. (2009), Introduction to Multi-agent Systems, Wiley Publication, USA.
4. Mark Ashcraft H. and Klein R. (2010), Cognition, Pearson Education Canada.
5. Richard Stark W.(1990), Lisp, Lore, Logic, Springer Verlag, New York.
6. Ballard D. (1997), Introduction to Natural Computations, Cambridge, MA: MIT Press.
7. Andrew P. (1986), An Introduction to Mathematical Logic and Type Theory: To Truth Through Proof, Academic Press, New York.
8. Russell S. J. (1989), The Use of Knowledge in Analog and Induction, San Mateo, CA: Morgan Kauffman.