FAM LANGUAGE IS

UNIVERSAL HIGH LEVEL HUMAN-AI LANGUAGE.

OFFICIAL SPECIFICATION.

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1/ What is FAM LANGUAGE ?

You know that every one today ask various AI system to help them in any aspect in any job in any sector of human society. AI system companion in all aspect of job/activity/society are irreversible trend today.

The most actual simple mission : how can biology people effectively talk/communicate with AI system, so that AI system can effectively understand people, and so that people can effectively describe precise matter to AI system, but with minimal required energy consumption of AI system computing, and with minimal required human cognitive load of syntax memory ?

Lets try the first universal language, the Fam language for people to communicate with AI system, with get most result of mutual people-AI understanding, with high enough ability to describe/explore PRECISE matter in humanity society, with pay minimal energy consumption of AI computing, and with less require ADDITIONAL PEOPLE COGNITIVE LOAD for syntax memory.

And with LESS 10 hour of language learning curve.

It is for general environment and humanity gain, it is open source, free for any use.

It is dedicated for communicating between current general biological people with general AI system.

What is it ?

Example1 : The title of this text is an example of fam language command.

Example2 :

```
begin (fam language)
(
 (look all file in (directory 'directoryName')) rename (file with condition ((file name) contain 'abcd'))
)
end (fam language)
```

The above fam language command is the instruction to AI system, so that AI system will generate explicit C code or Python code or Rust code or any other programming language code, to rename all file name, which contain 'abcd' in a specified directory 'directoryName'.

Example3 : the following example give the instruction to AI system do the same task :

```
(begin fam language)
(
```

(iterate all file in 'directoryName') rename (file) (with condition) ((file name) contain 'abcd')

)

(end fam language)

After some taste of fam language, here is more detailed description :

2/ FAM language specification :

2.1/ Core language building strategy :

fam language is an abstract language of human high level interface to communicate with AI system, which is base on 2 core component : the worldwide accepted standard english vocabulary, and the worldwide accepted standard mathematical grammar (instead of natural English language grammar).

- CORE LANGUAGE BUILDING STRATEGY OF FAM LANGUAGE :

fam language = standard english vocabulary + standard mathematical grammar (especially standard set theory) .

2.2/ Syntax specification :

The universal syntax of fam language command :

fam language have 1 and only 1 universal syntax for any fam language command:

(element1) (element2) simpleElementWithoutParenthese (element4) .. (element_n)

For example : (full name) is (family name) (name)

There are 4 outermost parenthesed element : (full name), ‘is’, (family name), (name) .

The element (full name) have 2 nested element : ‘full’ , ‘name’ .

For example : (create 2 record) (record1 ((record name) = ‘aa’ , (record value) =11) , record2 (no))

Same example : (make 2 record) (((record name) = ’aa’ , (record value) = 11) , record2 (undefined))

These 2 example command cause AI system to generate the same interpretation. But they are absolute different command with different element. Flexibility of using word in strict mathematical grammar, it is the ability of fam language. Thank to that, it decrease human cognitive load by allow biological people to avoid remember unnecessary tiny detail, but still guarantee biological people to effectively describe precise matter, with less energy consumption of calculating of AI system at server side .

* The “space” character is the separator between element in fam language command.

For example : the fam language command “a = b” contain 3 element in this place order : ‘a’, ‘=’, ’b’.

For other example : the fam language command “a= b” contain 2 element in this place order : ‘a=’, ‘b’.

These 2 command are absolute different command with different element, but they often will make AI system to generate same interpretation. They are all legal syntax in fam language. Note about the space character. The first example one cause less energy consumption of calculating in AI system, while the

second example one cause more energy consumption of calculating in AI system. Recommended style for writing in fam language : the first example one.

For example : the fam language command “a , b” contain 3 element : ‘a’, ‘,’ , ‘b’ .

For example : the fam language command “a, b” contain 2 element : ‘a,’ , ‘b’ .

These 2 command are absolute different command with different element, but they often will make AI system to generate same interpretation. They are all legal syntax in fam language. Note about the space character. The first example one is more strictly describe the intention than the second example one. Recommended style for writing fam language : the first example one.

* A fam language code page is a hypertext file, which contain many ordered fam language command. Thus in fam language, a fam language page code is itself a combined element, too. A fam language code page can contain element, which make link to many other fam language code page.

For example : a fam language code can page contain the following element at the beginning :

(link to ‘someFamLanguageCodePageFile.txt’)

After realize this element, the AI system know that the current fam language code page have reference to file ‘someFamLanguageCodePageFile.txt’ to find other element.

* A fam language command in fam language code page is a sequence of many ordered element. Thus in fam language , a fam language command is itself a combined element, too.

2.3/ There are only 2 primary core concept in fam language : the concept 'element', and the concept 'abstract relationship between element :

And there are no any other primary concept in fam language. It mean that all other concept in fam language must be derived from these 2 primary core concept.

* The first primary core concept of fam language is 'element' : In fam language, because 'element' is the first of first primary concept, thus there is impossible definition of 'element', but there is only illustration of 'element'. In fam language, 'element' is anything, which can be perceived by the AI system.

* The second primary core concept of fam language is the 'abstract relationship between element'. Because abstract relationship between element is primary concept, there is impossible definition of abstract relationship between element, but there is only illustration of that abstract relationship between element confirm that there exist abstract relationship between element.

* The strict hierarchy structure of fam language command use standard mathematical grammar of order. Thus other program can easily access to all element in fam language code page, thank to its strict mathematical hierarchy structure in fam language command. Mathematical explicit hierarchy structure is the core feature of fam language. Structure is explored in strict hierarchy pairs of parentheses.

* The place order of element in typical fam language command define all element abstract relationship :

For example, the typical fam language command : (element1) (element2) (element3) (element4) (element5) (element6 , element7) .

This example fam language command specify place order of these element, as you see this place order : (element1) (element2) (element3) (element4) (element5) (element6 , element7)

The place order of element in fam language command explicitly define all abstract relationship between element : there are abstract relationship between element in the same level of the strict hierarchy structure of fam language command. **No any info about the existing of abstract relationship between element of different level in strict hierarchy structure of fam language command.**

For example, this typical fam language command : (element1) (element2) (element3) (element4) (element5) (element6 , element7) .

This example fam language command define the following abstract relationship between element :

+ there is adjacent abstract relationship between (element1)->(element2)

+ there is adjacent abstract relationship between (element2)->(element3)

+ there is adjacent abstract relationship between (element3)->(element4)

+ there is adjacent abstract relationship between (element4)->(element5)

+ there is adjacent abstract relationship between (element5)->(element6 , element7)

+ but note that, this fam language command do not say any thing about the possible abstract relationship (element5)->(element6). There is abstract relationship (element5)->(element6 , element7) , but there is unknown info about possible existing of abstract relationship (element5)->(element6). By default fam language command do not specify anything about the abstract relationship between element in one level with other nested element in lower level of the strict hierarchy structure of fam language command. There are predefined abstract relationship between only element in same level of strict hierarchy structure of fam language command.

+ beside, there is nonadjacent abstract relationship between (element1)->(element3), and other analogues nonadjacent abstract relationship between element in same level of hierarchy structure of fam language command.

2.4/ Specification principle of fam language :

2.4.1/ EXPLICIT SYNTAX PRINCIPLE OF FAM LANGUAGE COMMAND : all fam language command must strictly follow the above syntax. This principle guarantee strict mathematical form of all fam language command, so that other program can easy access nested element for more complex task, and so that you will immediately know error when you see strange syntax thus you will save time without ambiguity of doubt about the right syntax.

2.4.2/ DEFINITE NUMBER ELEMENT PRINCIPLE OF FAM LANGUAGE COMMAND : All fam language command must contain definite number of element. No any fam language command can contain infinite number element in its form. But fam language command, which contain definite number of element, can describe set of infinite number element.

2.4.3/ Standard english vocabulary (standard english word) priority principle of fam language command :

(it will be explain more detail in next below part) .

Priority to use standard english vocabulary (standard english word).

Principle of using standard english vocabulary : when use standard english vocabulary, then it guarantee that all AI system can exploit their the predefined worldwide accepted meaning of standard english word, so that AI system can more exactly generate intended interpretation of fam language command.

Typical fam language command do not specify any concrete meaning, but it only specify 2 following thing:

+ there are such element, which are placed in explicit mathematical hierarchy structure;

+ and there exist such abstract relationship between these element in same level of explicit hierarchy structure.

The AI system will read english word in fam language command element, see the explicit hierarchy structure of fam language command to know element abstract relationship in strict hierarchy structure. Then the AI system use its predefined worldwide accepted meaning of standard english vocabulary, in combination with the strict hierarchy structure and element abstract relationship in fam language command, to generate final interpretation of fam language command, (for example, final interpretation can be text answer, or image, or video, or explicit programming code like Python code/Rust code/C code, ..).

Thus by prefer to use standard english vocabulary in fam language command, it guarantee that the AI system can quickly understand fam language command, thank to the the predefined standard english vocabulary rich arsenal of AI system. You can give definition to weird english word, then later use weird english word, but it is not good practice, because the AI system knowledge arsenal about your weird english word is poor.

There should be no plural english word in fam language command, for example it should be "2 car" instead of "2 cars". Because fam language command use the mathematical grammar instead of natural english language grammar to combine word.

2.4.4/ Levelize the relation between human cognitive load with short text record :

The more explicitness of fam language command, the less required energy consumption of computing in AI system.

The shorter key word and word, -> the shorter text record, but -> the extremely more required human user cognitive load.

So should levelize, should try to void such too short weird key word and word in fam language command, because it can save text record and text typing, but it require extreme big additional human cognitive load when you or orther people reread your fam language command next time.

Beside, short and short weird keyword simply can save text typing, but do not remarkably save machine code realization.

3/ Instruction to parse fam language code for AI system :

3.1/ The order of parsing fam language code for AI system :

The following working mechanism of fam language command :

(fam language command) -> (AI system will parse fam language command structure and abstract relationship and element) -> generate intended interpretation.

Fam language code are store in many ‘hypertext’ file (fam language code page file). (For simple, usually use simple standard text file to store fam language code).

Each fam language code page file contain many ordered fam language command.

Each ordered command in fam language code page file is simply sequence of many ordered element, which separated by “space” character.

In fact, command in fam language command are combined ‘element’. Page file in fam language code are combined ‘element’ too. Thus any fam language code is set of ordered element, which are in strict hierarchy structure, with element abstract relationship. **Thus in fam language code, anything is element, which can contain other nested element, and can be nested in other element, in whole strict hierarchy structure.**

Because the element structure is strict hierarchy, so AI system can begin from the most innermost parenthesed element to parse, until parse most outermost parenthesed element.

One of approach of AI system to parse fam language command code in page file : is to parse from innermost parenthesed element, until parse outermost parenthesed element.

One of approach of AI system to parse fam language code page file : is to parse code in the place order of command by command in fam language code page file.

3.2/ Instruction to parse single fam language command for AI system :

The AI system read element, read the strict hierarchy structure. The hierarchy structure of fam language command itself specify the element abstract relationship, thus the AI system see the element abstract relationship. Note that fam language command themselve do not say anything about the existing of abstract relationship between element in one level of the fam language command hierarchy structure with other element in lower level of the fam language command hierarchy structure, simply never have any description about it. AI system must remember that, in order to save time and energy of calculating. If there exist some relationship between element in one level of hierarchy structure with other element in lower level of hierarchy structure, then all these relationship are inferred relationship, which are established by the AI system themselves.

Then the AI system use its predefined knowledge of standard English vocabulary. And the AI system must use it predefined knowledge of standard mathematical theory, to combine with the info of element and strict hierarchy structure and element abstract relationship of fam language command. All to generate suitable user case interpretation of fam language command.

For example, the fam language command syntax " (element1) (element2)" simply confirm that there exist an abstract relationship (element1)->(element2) . The AI system will decide what this abstract relationship should be interpreted into real user case relationship. Thus it is possible that the AI system can decide to interpret some fam language element abstract relationship into no relationship in real user case. In this case, no relationship in real user case, but it do not mean that there is no abstract relationship, it simply mean that there exist abstract relationship, which is interpreted into no relationship in real user case interpretation.

4/ Real life example of fam language command :

4.1/ Example 4.1 :

(begin fam language) (cell № 1)

(

(iterate all file in directory) (directory name = 'my directory') (change all file name to upper case)

)

(end fam language) (cell № 1)

{Copy and give the above command to AI system, for example Microsoft CoPilot, Chat GPT, Google Gemini, Facebook AI. Then ask them to generate Python code or Rust code or C code, .. . You will receive explicit Python code doing exactly the intension}

Explain : there are 3 outermost element : (iterate all file in directory), (directory name='my directory'), (change all file name to upper case).

The AI system understand these element.

The AI system see that there is abstract relationship : (iterate all file in directory)->(directory name='directory') .

The AI system see that there is abstract relationship : (directory name='directory')->(change all file name to upper case).

So the system decides the following interpretation : "change all file name in the specified directory into upper case.

(if you give this fam language command to the AI system, for example, ChatGPT, Google Gemini, Microsoft Copilot, Facebook AI, for example, to ask generate python code, then they will generate explicit python code to do exactly the intended task).

4.2/ Example 4.2 :

begin (fam language) (cell № 2)

(

look (all file in directory) ((directory name) = 'my directory') (change all (file name) to (upper case))

)

end (fam language) (cell № 2)

{Copy and give the above command to AI system, for example Microsoft CoPilot, Chat GPT, Google Gemini, Facebook AI. Then ask them to generate Python code or Rust code or C code, .. . You will receive explicit python code doing exactly the intension}

Explain : this example 4.2 do the absolute same task as example 4.1 . But example 4.2 describe more strictly abstract relationship.

Thus example 4.2 help the AI system to quicker and easier to understand, and remarkably save energy consumption of AI system computing at server side.

You maybe can not feel that AI system quicker to understand the example 4.2. But when you send file of many command such as example 4.2 , then you can feel that AI system quicker understand example 4.2. The example 4.2 require less energy consumption of computing at AI system server side.

They, the example 4.1 and example 4.2, are all legal right syntax of fam language command.

In example 4.2 , there are 4 outermost element : "look", "(all file in directory)", "((directory name) = 'my directory')", "(change all (file name) to (upper case))"

Note that the complex element : ((directory name) = 'my directory') .

It has 3 nested element : (directory name), "=", 'my directory'.

The AI system will read these 3 nested element, with their specified abstract relationship, to decide that must have "directory name" = 'my directory'.

In this case, the abstract relationship : (directory name) -> "=" , "=" -> 'my directory', are more closely to describe the reality of that (directory name) = 'my directory' .

Now review the example 4.1 : the element (directory name = 'my directory') have 4 nested element : "directory", "name", "=", 'my directory' .

With abstract relationship : "directory" -> "name", "name" -> "=", "=" -> 'my directory' .

you see that these abstract relationship less strictly describe the real reality of that (directory name)='my directory'.

Thus the example 4.1 is longer to AI system to understand, and require more energy consumption of computing in AI system.

4.3/ Example 4.3 :

(Hydrogen affair) in ((fam language) (dedicated universal language for AI era)) ((for all) (general people, specialist)) .

There are 5 outermost element : (Hydrogen affair), “in”, ((fam language) (dedicated universal language for AI era)), (for all), (general people, specialist)).

There is also nested complex element : ((fam language) (dedicated universal language for AI era)), which contain 2 nested element (fam language) and (dedicated universal language for AI era) with 1 abstract relationship (fam language) -> (dedicated universal language for AI era).

The AI system simply interpret this abstract relationship as : (fam language) is dedicated universal language for AI era) .

Thus, AI system will interpret such whole fam language command toward the following meaning :

“hydrogen affair in fam language, which is dedicated universal language for AI era, for all people, for general people, and for specialist” .

4.4/ Example 4.4 :

(begin fam language)

(

(set (variable) ((variable name) is ‘a’, (variable value) is 123)

(set (variable) ((variable name) is ‘b’, (variable value) = 456)

repeat (print (a + b + index)) (5 time) (index go from 1 to 5)

)

(end fam language)

{ Paste the above fam language code to AI system, such as Google Gemini, Microsoft CoPilot, ChatGPT, and ask them to generate explicit programming language codes, for example Python code, Rust code, C++ code, then you will receive explicit programming code doing the intension. }

The above instruction is intension to do simple program :

+ set variable a=123

+ set variable b=456

+ repeat print (a + b + index) for 5 times, where index go from 1 to 5.

This is simple program. But use meaning here is that : you do not know, for example, Python code syntax, or you know Python syntax not well, but you can describe enough precise intention in fam language, so that you receive explicit Python code to realize your intension. In natural language, it is impossible to strictly describe precise intension/instruction to AI system.

Of course, if you know very well programming languages and can very quickly remember colossal number of all detailed syntax and command of programming language, then you should not use AI, but you can do all your instructions by yourselves writing programs. But reality shows that it require big human cognitive load, and almost people are not comfortable with that. Fam language levelized, it require substantial less your cognitive load for syntax memory, while allow you to maximal strictly describe precise matter, and allow minimal consume energy of AI calculating at server side.

One of the most powerful use case of fam language : you use fam language to possible precise instruction to AI system, so that AI system will generate programming code (for example Rust code, Python code, C++ code, ..) realizing your intension. Then you correct the received code .

5/ Use fam language with other non-english natural language vocabulary :

It is easy to use other non-english natural language vocabulary in fam language.

Because fam language use mathematical grammar for its explicit hierarchy structure to combine word and to describe element abstract relationship, but fam language do not tend to rely on natural English language grammar. Thus, it is the same effect to use non-english natural language vocabulary in fam language, but only if your AI system companion have good predefined knowledge of these non-english natural language vocabulary.

Without natural language grammar, all popular natural language vocabulary are equivalent.

6/ How to begin use fam language :

General user simply copy the content of this text file send to the chat windows of their AI system (for example, Open AI Chat GPT, Microsoft CoPilot, Google Gemini, Facebook AI). You can also attach the text file of this content, then send to AI system in chat windows, so that your favorite AI system can learn and train fam language. That is all. After that, possible write fam language in chat windows of AI system to communicate with AI system.

The content of this text file is official specification of fam language, and is also official parsing instruction to AI system to parse fam language code. Thus the content of this text file is itself instruction and training course for AI system to communicate in fam language, because all today popular AI system have the ability to learn and train directly from the information from their chat windows.

Of course, more effectively when AI software add code to realize the instruction of how to interpret fam language in part3 of this text.