First quarter work summary report

1：Summery

Most of the work in the first quarter was done, The incomplete part is the partial grammatical structure of the training content verbs. There is also the user survey of the product on picture painting style is incomplete.

2：Milestone control task completion and adjustment.

3：Detailed report on specific work in the first quarter;

* Milestone completion in the first quarter:
* Milestone 1 Defining the Yuudee2 product and doing user research using focus group discussions and shadowing autistic children in communication environment
* Activity 1 ：Defining the Yuudee2 product according to the needs of autistic children, the feedback of special teachers and the inspiration of foreign competitive products.

Output：Yuudee2 product proposal V1.0.0

Link:https://github.com/xiaoyudi-China/xiaoyudi\_iOS/blob/master/Yuudee2ProductProposalV110EN.md

* Activity 2：Field survey 5 target audience, 3 expert and 3 special teacher for the validity of Yuudee2 product definition

Research process: research purpose: Yuudee2 product's theoretical basis, product effectiveness research, and adjustment suggestions.

First, five parents of autistic children were surveyed. Their children have language, but their language skills are weak or their language structure is very confusing. Interview these five parents respectively, for the children's language structure disorder needs, All five parents expressed a clear need for a product to improve their child's language structure. Secondly, we surveyed three experts in the autism industry for the effectiveness of the products. Dr. Wu Youyou of Taiwan, professor Wei Liping of Peking University, and Professor Wang Hongli from the education institute of Beijing Star Rain. There are also three teachers for autistic children. They are Zheng Tian, teacher of Beijing Star Rain education, Hou Ya of Beijing Colorful Deer and teacher Li Jing of education research institute in Beijing.

Main discussion：

1. What is the meaning of training language structure for children with autism?

2. How is the language structure of autistic children trained in the actual teaching of institutions?

3. Is the development level of the third stage of language structure suitable for Chinese grammar in VB-MAPP as well?

4. Is the level of Chinese grammar structure training reasonable in difficulty?

5. How to use the teaching method of learning grammar for children with autism on APP?

Research output：

1. Meaning: an important sign of language development is that children acquire more complex words, phrases, and sentences. With the improvement of children's social ability, it is necessary to communicate in a richer and more precise language to meet the social needs. Therefore, it is important for children with autism with single or grammatical structural errors to master the correct and rich grammatical structure to submit their social communication skills.

2. Current institutional training: primarily for the cognitive understanding of various nouns, verbs and modifiers for children with autis. When they have about 50 nouns, 50 verbs, 20 to 30 adjectives, adverbs and so on, they began to train them to put together words that they had learned to form specific modifiers, they mainly use ABA teaching method training.。

3. Although English grammar is different from Chinese grammar, But the purpose of the third phase of the language structure is to add modifiers to the words that have been mastered, To use two modifiers to modify a noun or verb. This is the level of the four-year-olds in the language structure;

4. The difficulty level needs to be adjusted slightly, For example, attribution, you, my, her, this is a very difficult word for children with autism, And then you have to think about how the picture of the APP represents the question, and decide if you want to keep it. The sentence like “This is…”, this sentence pattern is abstract，Consider whether or not to replace it with “Someone has…”

5. Take pictures to assist. All nouns use static pictures, verbs with dynamic pictures, repeated again and again. Let the child construct the grammatical structure of the modifier and gerund in the mind.

Output:Yuudee2 product proposal V1.1.0

Link:https://github.com/xiaoyudi-China/xiaoyudi\_iOS/blob/master/Yuudee2ProductProposalV110EN.md

* Milestone 2：According to the theoretical stratification of Yuudee2 product definition, add details of product - determining the contents of 400 training sentences
* Activity 1：Inviting five autistic language training teachers to write the sentences which they train on\ during their routine teaching. Also inviting four parents whose children aged 2-4 years have normal language development to record their childrens' daily expressions.

Output: There is 11 - level classification of the grammar structure of the training. Five teachers and four parents were invited to add sentences under 11 grammatical structures. Add about 500 sentences, as the first draft of the corpus.

Link: https://github.com/xiaoyudi-China/xiaoyudi\_iOS/tree/master/docs

* Activity 2：Inviting industry experts in the AAC space to meet to discuss and determine 400 training sentences.

Output: The three - layer language structure on nouns and 207 training corpus were discussed. The verb - centered grammatical structure is not yet determined.

Link: https://github.com/xiaoyudi-China/xiaoyudi\_iOS/tree/master/docs

* Activity 3：Product requirements document draft based on user research

output：Marketing Requirements Document

Link：https://github.com/xiaoyudi-China/xiaoyudi\_iOS/blob/master/MRD-V100.md

* Milestone 3：Choose the painting style of the scene picture corresponding to the 400 sentences.
* Activity 1：Mr. Lee was asked to lead the graduate students to discuss the painting style, and invited students from different styles to try the pictures.

Adjustment: Li Mu's team was not invited for the time being, Instead, We gave the opportunity of painting to a 24-year-old autistic youth, li Ziyang. He is a graduate of Dalian University of Technology, and currently works in a SPA company based on hand-drawn drawings. Invite him to do Yuudee2 product painting test work.

Link: https://github.com/xiaoyudi-China/xiaoyudi\_iOS/tree/master/symbolset

* Activity 2：Research: surveying the user and the language trainer the various styles of the test paintings, and choose the picture drawing form which is the most suitable for autistic children to learn special pictures

Uncompleted

* Milestone 4：Cohort Product Development
* Activity 1：Contribute all product design and code to github repository

Output:1.Yuudee2 product proposal V1.1.0 2.Market requirements document draft 3.Specific training sentence content design 4.Determine the painting style of product pictures

Link: Same as above.

* Activity 2：Attend AAC technical product workshop

Completed, Wang Nan attended

* The reason and the completion of the milestone adjustment;
* Milestone 3：Choose the painting style of the scene picture corresponding to the 400 sentences.
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Adjustment: Li Mu's team was not invited for the time being, Instead, We gave the opportunity of painting to a 24-year-old autistic youth, li Ziyan. He is a graduate of Dalian University of Technology, and currently works in a SPA company based on hand-drawn drawings. Invite him to do Yuudee2 product painting test work.

Completion: There are three styles of trial painting.

Links: https://github.com/xiaoyudi-China/xiaoyudi\_iOS/tree/master/symbolset

* The work content that is beyond the milestone.
* Luo Chuan visited Vice Dean of Microsoft Research Asia Lab,  Dr. Zhou Ming, who is the Chairman of China NLP consortium. They discussed the feasibility of applying AI technology in understanding and rating the student reaction. Also identify the limited availability of metadata is a obvious challenge.
* Luo Chuan and Yu ChangHong visited Professor Xun Endong in Beijing Language and Culture University. Professor Xun is working on IT excution for Chinese ednucation to foreigners as second language.  Professor Xun suggest Yuudee 2 use the character sets idenfied by YCT (a chinese capability test standard). Specifically YCT 1, 2 and 3, each responding to 80,150 and 300 words. They are the most frequent used words according through  big data analysis and emperical test. We considered his suggestion, and compared the YCT1,2,3 character sets with the recommendation from Therapists. The current selected words are the intersection from both.
* The work description of the milestone work is not completed;
* Milestone 2 is partly done：

This milestone is intended to determine the specific training content of 400 sentences. Includes the training of the noun centered grammar structure and the grammar structure of the verb.

At present, we have completed the training content of the noun - centered grammar structure：Three grammar training levels were identified, and about 207 training corpus.

The verb - centered grammatical structure is still in dispute. Experts have disagreement on some aspects, and are now gathering theoretical evidence. It is expected to be completed by mid-April.

* Milestone 3 is partly done:

There is no user survey of painting style at this stage, and the first week of April is expected to be the user research of painting style.

六：The expected completion of the milestone task for the newly added yellow part.

七：Outlook for the second quarter and adjustment.

* The second milestone is the building of the product's training corpus, painting, prototyping, UI design and development technology architecture.
* At present, the training corpus of products needs to be further improved and refined, and the theoretical basis should be further studied to determine the most representative Chinese grammatical structure training.
* The first draft of the prototype of the product has been completed, and the interfaces and functional modules need to be carefully examined before they can be determined.
* The UI designer has decided. It is a great honor to have invited Yuudee1's UI interaction designer Liang Xingmei. Currently, UI design has been started.
* The painting of the product is currently being asked by the autistic youth Li Ziyang. The next step is to do user research. If the user research is approved, Li Ziyang can continue to draw all the pictures. If there is a problem, it may be necessary to reconsider the painting of Professor Li Mu of the academy of fine arts in Tsinghua university.