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How to help students who live in rural areas get equal education resources.

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How to help students who live in rural areas get equal education resources.

Thesis

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School of Design
College of Art and Design

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Abstract

With the development of China's economy, the imbalance between the east of China and the west of China appears. Developed cities like Shanghai and Shenzhen attract more people to work and live. As a consequence of the good economy, the education in those cities is professional. Students in those cities kept the best education resource. Unfortunately, students who live in rural areas or the west of China cannot share the same education resource. The coming of the coronavirus exceeded the inequality of education resources since a lot of rural schools closed. That means students who live in rural areas need a platform to get the equal education resource and help them study effectively. My work aims to help children in different areas with access to an equal teaching environment by creating a virtual environment to shorten the distance between the students and the classroom.

For many years, the Chinese government committed to improve the education environment of China. With the time going into the 20th century, the education environment of east China has improved a lot. On the contrary, there were few resources in the west of China. Then, along with the imbalance of educational resources, there is also an imbalance of educational resources in rural and urban areas.

According to the survey of China's official agency, in 2013, the number of Medium Schools in rural areas of China was 18485. After 6 years, the numbers above have dropped to 14477. That means 4008 Medium have been abolished. At the same time, there is no good news for rural primary schools: 51000 Primary schools have been abolished. Many teachers leave their rural campus and go back to downtown which causes the reflow of teaching resources. This way, the education resource in rural areas is less than the education resource in town area. Once students cannot get enough good education resources, they cannot develop a good after-school learning. According to the official data, the rate of children who live in towns to get further education is 52.21, the rate of children who live in villages to get further education is

19.62. [1]These data shows that students who live in rural areas cannot get

equal education resources like students who live in towns.

Due to the COVID spread out around 2019. A lot of schools shut down and a

lot of students have to stay at home to enter the online course. The online

course is not as efficient as the offline course since students cannot interact

with their classmates as well. If students only keep to watch the pdf screen

for a while, some students will be tired after watching the pdf screen.

To solve those problems, it is important to build an online teaching platform

that can help students who live in rural areas get an equal chance to choose

courses like students who live in town. The platform will help students who

live in rural areas to choose courses that can only be learned by students

who live in city areas. That means they can get better education resources.

Also, the 3D environment will provide students with a better education envi-

ronment, students who use this platform will enjoy the control system and get

a fine interaction. By this way, students can release their fatigue and improve their study efficiency.

To help students who live in rural areas to choose the great course, that means students need to know the name of a famous school, the name of a famous teacher. The platform should have multiple ways to help students to select the best course. There are 4 Different ways to achieve this goal course classification function which contains the method as teacher's name, School's name, Subject's name and grade name. If a student does not know the appropriate school or teacher, they also can choose the appropriate course by the course recommendation function which ranks the teacher, subject, school and grade.

Simultaneously, a 3D environment will arouse student interest in the study environment. Students can move on the map of campus and within the classroom. The 3D environment will help students experience the movement and the interaction with their classmates which can release their fatigue. The 3D environment was used to imitate the campus environment and give student a real experience of being on the campus , they can control the figure to move on the campus map.

In conclusion, although some people would say that the ideal solution to the imbalance of China's education is to improve the economy and infrastructure of rural areas since the good economy and infrastructure will attract more teachers to work at rural schools. However, a developed economy and well infrastructure need more time. The education of rural areas cannot wait for so long. Using multiple ways to choose courses and using 3D tech to release the fatigue of students who take online courses may help to release the education resource shortage. In conclusion, I think the multiple ways course selection and the 3D interaction utilize is useful to release the imbalance of education.

Website Link: https://designed.cad.rit.edu/vcdthesis/project/shunjie-yango-study-duplicate?preview_id=7696&preview=true

References: https://baijiahao.baidu.com/s?id=1689475847453806019&wfr=spider&for=pc

References: https://resources.pollfish.com/pollfish-school/understanding-the-data-in-multiple-selection-questions/

References: https://en.wikipedia.org/wiki/Social_interaction_and_first-person_shooters

Defense

O-Study
-A plateform for better online study-

Advisor： Mike Strobert　　**Student：** Shunjie Yang

● **ONLINE RESEARCH**

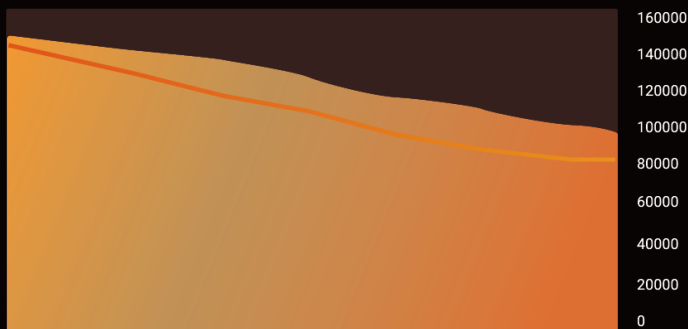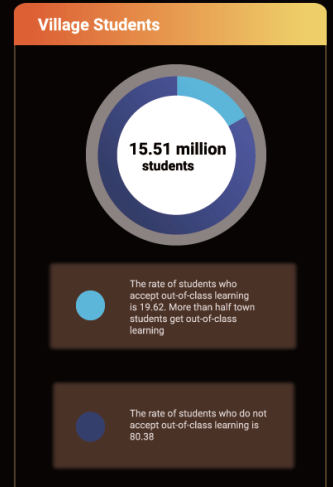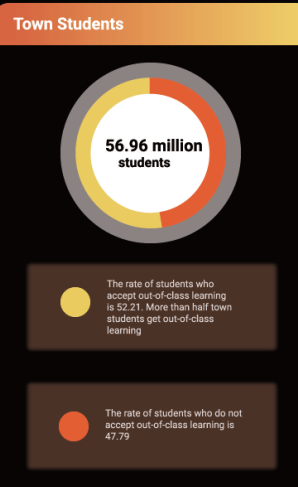| Village Middle School number 2013	Village Middle School number 2019	Village Primary School number 2013	Village Primary School number 2019
18485	**14997**	**140000**	**89000**

2014	2015	2016	2017	2018	2019
17707	16991	16171	15288	14792	14477
12.9	11.8	10.6	9.6	9.1	8.9

Chart axis: 160000, 140000, 120000, 100000, 80000, 60000, 40000, 20000, 0

Town Students

56.96 million students

The rate of students who accept out-of-class learning is 52.21. More than half town students get out-of-class learning

The rate of students who do not accept out-of-class learning is 47.79

Village Students

15.51 million students

The rate of students who accept out-of-class learning is 19.62. More than half town students get out-of-class learning

The rate of students who do not accept out-of-class learning is 80.38

● DESIGN GOAL

1.Help children in different areas with an equal <u>teaching environment</u>

2.<u>Shorten the distance</u> between online course and offline course

● DESIGN DEFINATION

<u>Problem:</u>

1. Students in the West of China cannot get a good education like students in the East of China

2. Students need a real-life classroom to communicate each other

<u>Solutions:</u>

1. Multiple online course selection

2. Online class use 3D tech to built a vivid class room environment

● **DESIGN DEFINATION**

Problem:

Solutions:

1. Students in the West of China cannot
   get a good education like students in
   the East of China

1. Multiple online course selection

2. Students need a real-life classroom to
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2. Online class use 3D tech to built a
   vivid class room environment

● **DESIGN DEFINATION**

User position

Main user is student who live in rural
areas and cannot get equal
education resource.

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Product function

Main function: Help users choose ideal courses.
Secondary function: Release student's fatigue.

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Product features

3D Study environment
High interaction
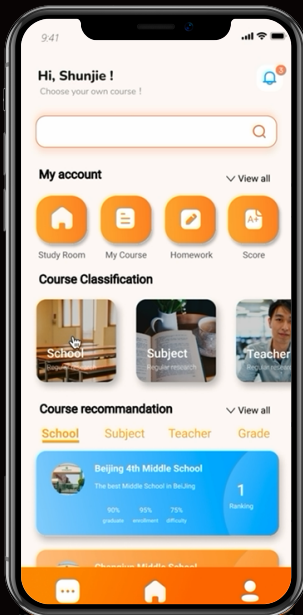
Multiple ways to choose course

Students can use the name of school, subject, teacher grade to choose the course they want. All well-known schools provide their courses for students to choose.

Functions:

1 In Course classification. Students can use 4 different ways (School name, Subject, Teacher, Grade)to choose their ideal course. The system apply multiple ways to help students to locate course they wanted accurately.

2 In Course recommendation part. The system will provide rank with different standard according to school, subject, teacher and grade to help students to know the best course. By this way, students know the best course and get the best education resources.

3 My account contains all informations which include selected course, homework of each subject and score of each subject.

Flexible ways to choose course

Even in the course selection interface, students can change select methods anytime. These ways can help students to target ideal course directly.
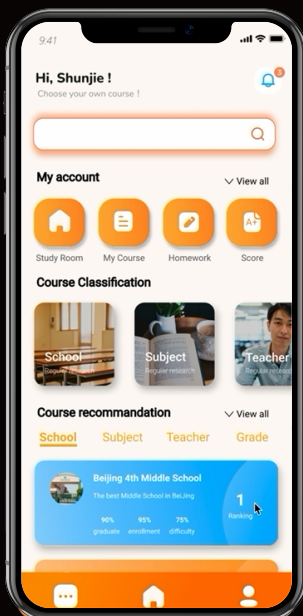
Functions:

1 If students choose school as their first step, students can still target their course by other selection standards. Students can use the subject or teacher button to choose their course.

2 If students choose their subject, the search outcomes can be more accurate by adding/deleting specific standard tags.

3 In Course description card, you can see the abbreviated description of the course and the content of the course which is convenient for students to judge.
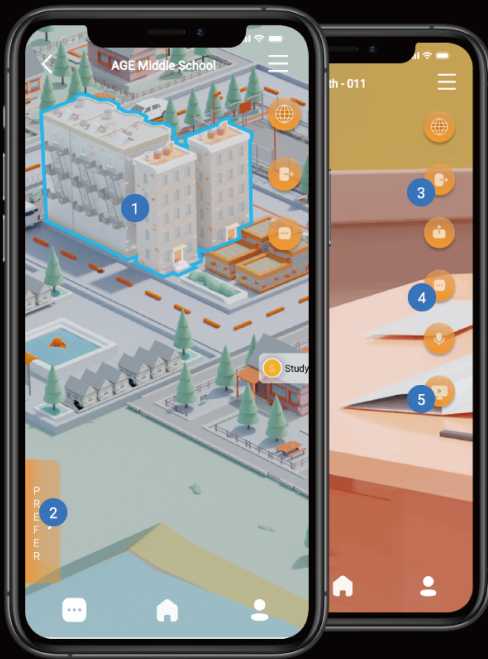
Vivid study environment

The system will provide users a vivid environment to let them feel at a real classroom. Shorten the distance between students & School.

Functions:

1 When Students click the building in the map, the selected building will be highlighted. A box will showed up to tell students with information about the building.

2 The preferred menu will give students a direct lead to show the place where the user goes frequently. When students click this function, the quick lead will give them a quick drive to their course directly.

3 The quick enter button will provide students a leave function to let them enter/leave the place.

4 The talking button gives students a talking tube to express their thoughts.

5 The video button helps students to focus on the pdf(teaching content) if they only want to focus on the teaching content.
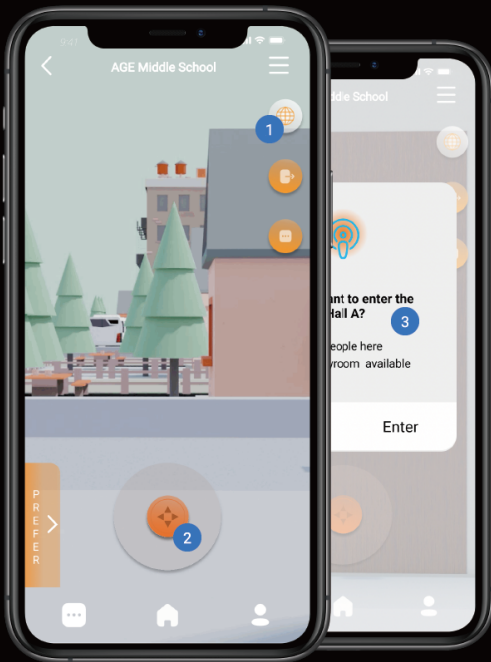
Fine interaction

The system will provide students a 3D environment. Students can control the figure walking around in the campus and classroom. The real environment will release the pressure on students and help them focus on their course content.
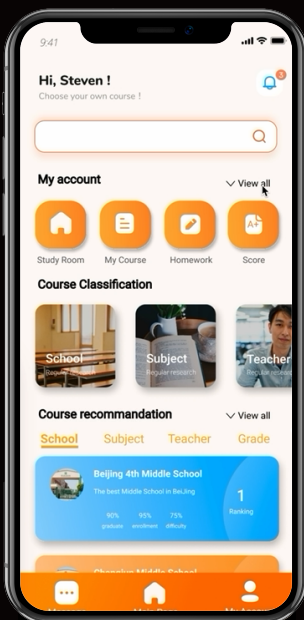
Functions:

1 The global button gives students a chance to control the figure movement by themself. This will let them feel at a real campus.

2 The drag button provides students with a movement function. Students can drag it to move freely.

3 Once students approach(arrive) the gate of one room or building, the system will ask them to enter.

On-time course feedback

The system will provide students a window to help students to check their grade and the feedback of homework.

Functions:

1 The my score interface have a check button, students can chek their GPA from each subject.

2 My score interface also have single subject cheking function, students can check the detail of their grade and know the feedback from teachers.

3 My score function also possess different graph function that can show the info by different graph.
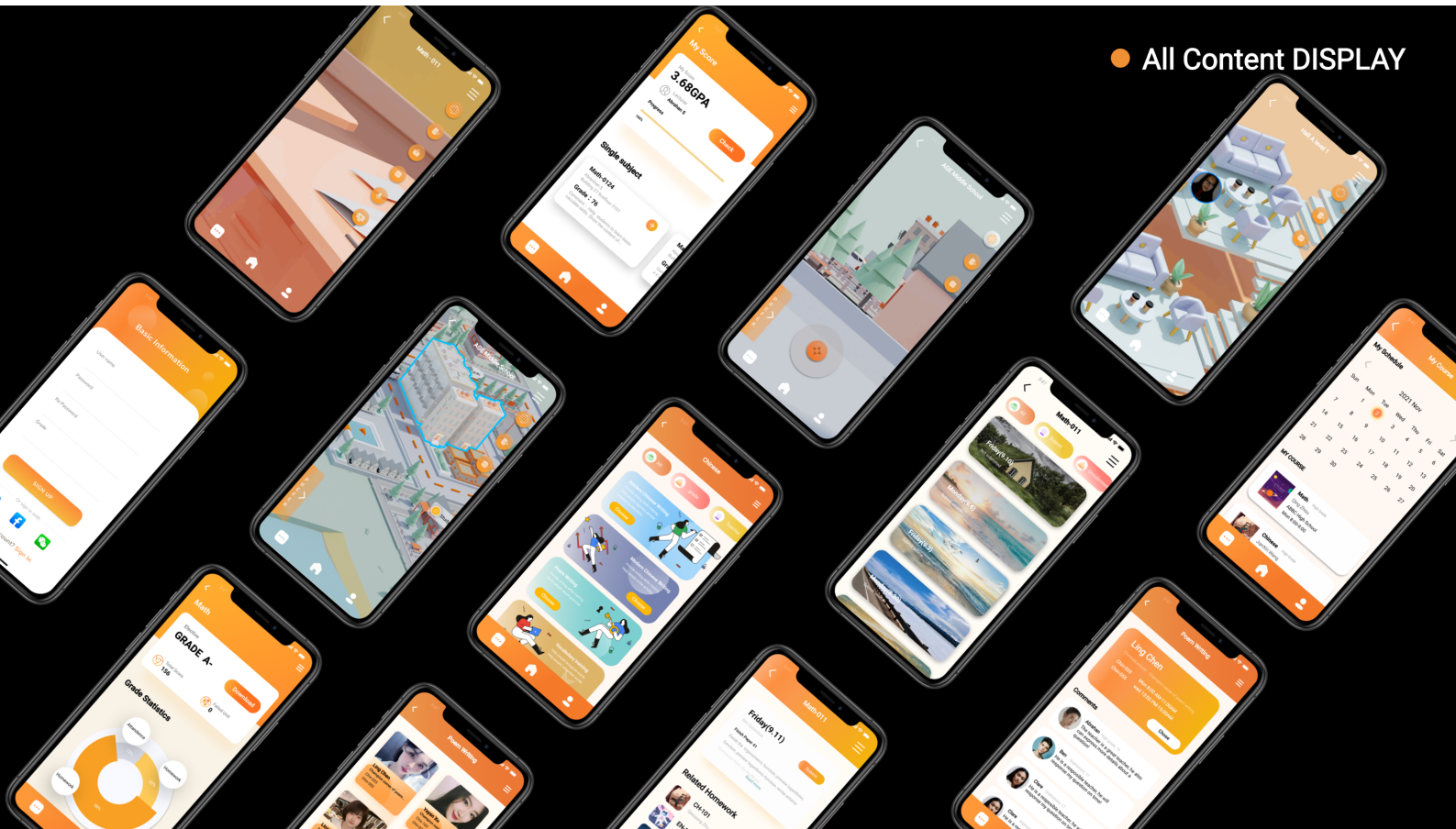
● LOW-FI DISPLAY

01/ Select Course
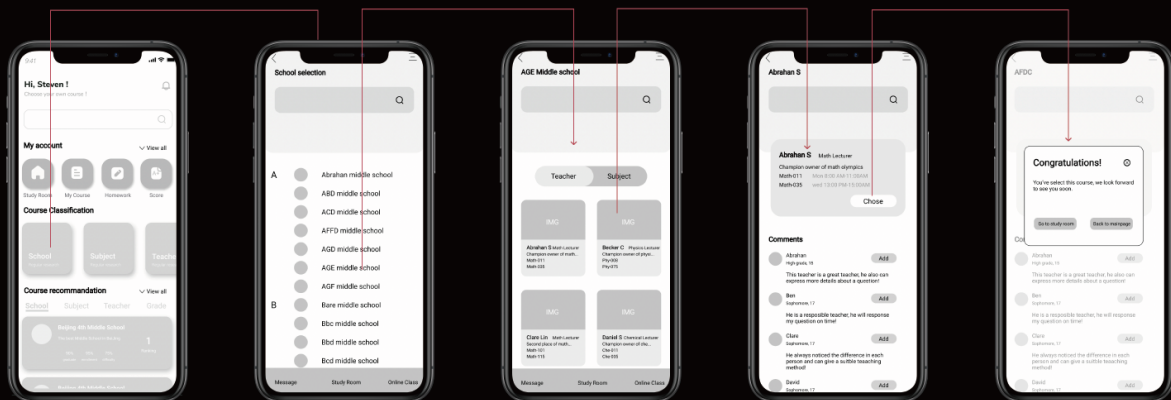
LOW-FI DISPLAY

02/ Study Room

All Content DISPLAY

All Content DISPLAY

Design details: