I. College of Business App

a. Summary of project and stakeholders or partners in your own words.

This software attempts to provide a way for students, parents, faculty and staff to interact with the college. Provide digital tours for personnel when they do not need to come to the college. Software users can virtual tour the college through the software. In addition, the software also provides registration and notification functions, as well as Integration with LinkedIn and Handshake. In general, the software shows the campus culture to the outside and provides people with the opportunity to learn about the college of business.
Project Partner: Omar Trinidad

b. A list or paragraph outlining the engineering requirements.

- Virtual Tours with videos
  The video time should be controlled, preferably not more than 10 minutes. If there is more content, it can be divided into different videos. The video needs someone to explain and briefly introduce the building information of the college. If possible, the video can be made into a 360° video, and users can watch it with 360° glasses. This allows users to understand the college better than traditional videos.
- Tour Signup
  Need to provide a form for people to register, the form should include First Name, Last Name, Email, Date of Birth, how many people, what language visitor prefer, date selection, two tour options, one is Campus walking tour, and the other one is Campus Virtual tour. Before the user confirms the selection, the software needs to provide a summary for the user to confirm.
- Event Registration and Notification
  Need to provide a form for people to register. The form should include First Name, Last Name, Email, Student ID, Phone, event selection, and date selection. Before the user confirms the selection, the software needs to provide a summary for the

user to confirm. After the user completes the registration, a reminder notification should be sent to the user's email and mobile phone. Users can freely choose when to remind again, such as the day before the event or the week before.

- Integration with LinkedIn and Handshake
  Allow users to communicate and communicate with others. User information will be shared on LinkedIn and Handshake to attract the attention of candidates.
- Advising Appointment Signup
  Need to provide a form for people to register. The form should include First Name, Last Name, Email, Student ID, Phone, appointment selection, and date selection. Before the user confirms the selection, the software needs to provide a summary for the user to confirm. After the user completes the registration, a reminder notification should be sent to the user's email and mobile phone.

c. A list or paragraph outlining the constraints that might affect design.

- Design does not attract students, students are not impressed
  The design should be easy to navigate, unique in style, and highlight campus features such as orange in color. Provide users with continuous feedback, the purpose is to encourage users to stay involved.
- Design for different roles. The program needs to be used by different groups, including teachers, students, parents, and more. The content added for students may not have the same effect on other groups. Make sure to include different groups when designing. I think this will be a huge challenge.
- Private issues. The design needs to ensure that user information is protected. Users can choose the degree of disclosure of information.

d. A recommendation paragraph that includes

1. **Key skills that will be needed to complete the project**

- Good user interface design
  User interface and user experience are related to the ultimate satisfaction of users. A good user interface can actively motivate users, improve user experience, and achieve the purpose of retaining users.
- Cross-platform user development
  Since there is no specific mention in the requirements, I think we need to have a wealth of cross-platform knowledge to satisfy that the software can be used on any platform.
- Cyber security. Ensuring user privacy and protecting user data is of paramount importance.
- quality analysis
  Someone should ensure the quality of the content and ensure that different groups of people can get the content they need through the use of the app.

2. **A general list of equipment or resources that might be needed to facilitate design.**
   - GPUs. No special requirements
   - Headsets. 360° glasses (not required).

3. **A rough timeline for development and what personnel you'd recommend for each phase of development.**
   - 10 days. Understand the needs. Have an understanding of the design content. People with organizational experience need to lead the team to understand customer needs and communicate with customers.
   - 30 days. UI/UX design. Design a user-friendly UI/UX. Increase user experience. People who have rich experience in designing UI/UX.
   - 45 days. Backend. Ensure the operation and safety of the app. Back-end developer.

- 45 days. Frontend. Design what users see. Front-end developer.
- 15 days. QA. Test if the app is running as expected. Group leader

II. Remote Learning

a. Summary of project and stakeholders or partners in your own words.

Due to the impact of covid-19, remote learning still needs to last a long time. In this case, it is necessary to have an application that can follow up the child's learning progress. Parents often feel annoyed by the problem of not being able to help their children, and it is difficult for children to complete their homework without the help of teachers. This puts pressure on children and parents at the same time. The purpose of this app is to help teachers re-track the child's learning progress and provide assistance to the child.

b. A list or paragraph outlining the engineering requirements.

- Create a virtual classroom in apps allows educators track the progress of their students and be there on demand when a student needs help.
  Virtual classroom should be able to use Video and audio, Screen sharing, whiteboard, in class quiz, video record, notes sharing. Beside this, the application should have Integration with Facetime or Zoom. Provide students with more basic contact information.
- App for apple/android
  Ensure that cross-platform mobile app can still be used normally.
- Build a scheduling system for assignments and video presentations.
  System should include courses, classrooms, professor information, student information, calendar and schedule, and study plan. The system should automatically assign courses, classrooms, and students to teachers based on student information. Make the course arrangement more convenient and effective.
- Import assignments into the system for the student to complete and be tracked.

This should include assignment title, assignment information, deadline, available time, number of attempts, progress, and score.

- Track the students progress in an assignment. Track the amount of time spent on a problem.
  This should include completion percentage, time spent, current score.
- Alert parents of missing assignments.
  If students have missing assignments, the app will automatically send SMS reminders to parents to inform them of the missing assignments. At the same time, if the child missed the class, the app will also send a text message to remind the parent.
- Create triggers when a student is struggling to alert the teacher.
  Set up a function for students when students need help. Provide students with answers and explanations to practice questions after students answer the questions wrong.

c. A list or paragraph outlining the constraints that might affect design.

- Student motivation. Remote learning applications have been trying to achieve the purpose of campus learning by creating more functions for students. However, many students still think it is difficult to learn in virtual classrooms, and they prefer to attend school. In remote learning, teachers reduce a certain degree of control over students. This may cause the student's attention to be insufficiently concentrated and thus unable to understand the content of the class.
- The balance between entertainment and learning
  I can understand that if this app is for high school students or college students, we may not need to consider this issue. However, I believe that this app is for younger students. Some young students have poor self-control. In order to increase the

user experience, we may add more interesting elements when designing. How to balance the entertainment and learning in the app is a problem. Fun apps can easily distract students, while unfun apps can't attract students. Educational apps need to continue to explore how to attract students while achieving a certain learning effect.

- Similar function
  While browsing the project, I found that many functions are already being used by many apps, and they are not novel functions. When making a selection, users will find that the functions of apps are not much different, how to stand out among many education apps is a problem, and how to keep users motivated is also a problem that needs to be considered later.

d. A recommendation paragraph that includes

1. **Key skills that will be needed to complete the project**
   - UI/UX. Because of the similar function of educational apps, we try to highlight interaction design to better attract students.
   - If you need to use the server, then you have to grasp the common sense and development language of WebService. Commonly used are ASP.Net, PHP, JSP, etc.
   - Familiar with database.
   - Familiar with API interface development, including your own ability to develop APIs and the experience of calling third-party APIs.

2. **A general list of equipment or resources that might be needed to facilitate design.**
   - GPUs, no special requirements
   - Headsets, no special requirements.

3. **A rough timeline for development and what personnel you'd recommend for each phase of development.**
    - 10 days. Understand the needs. Have an understanding of the design content. People with organizational experience need to lead the team to understand customer needs and communicate with customers.
    - 30 days. UI/UX design. Design a user-friendly UI/UX. Increase user experience. People who have rich experience in designing UI/UX.
    - 45 days. Backend. Ensure the operation and safety of the app. Back-end developer.
    - 45 days. Frontend. Design what users see. Front-end developer.
    - 15 days. QA. Test if the app is running as expected. Group leader

III. My Pet Pal

a. Summary of project and stakeholders or partners in your own words.

With the improvement of people's living standards, there are higher requirements for spiritual life, more and more people keep pets, and more people regard pets as a kind of spiritual sustenance. especially the elderly and young people who are suffering from urban pressure. This has led to an increasing demand for pet diet and medical treatment, and medical institutions related to pets have also developed. Although the pet medical industry is gradually developing in a better direction, there are still some problems. Pets' medical information is usually stored on veterinary websites, email, or printed and stored at home. But sometimes these data will be lost, which causes unnecessary trouble for pet adoption. The purpose of this application is to digitize pet medical information so that people can upload and save pet medical information without worrying about the loss of data. Uploading of these materials will promote the adoption and purchase of pets.

b. A list or paragraph outlining the engineering requirements.

- Create a well designed interface for the application.
  The app should include pet information, including photos, birth certificate, microchip#, body description, medical history, insurance information, veterinarian information, etc.
- Allow Users to create a profile for their pet.
  The user should be allowed to select a photo of the pet from the album or take a photo of the pet with the camera.
- Allow Users to upload documents for their pet.
  Users are allowed to upload pet medical records, vaccination information, and drug information.
- Event Registration and Notification. Users can set up notifications for pets to remind them when they need to renew their license, rabies vaccine, etc. The notification needs to include time, location, and event. The user is allowed to make an appointment through the app. The user needs to fill

in personal information and choose the time and place to meet.

- Medical help. The user can communicate with the veterinarian. If you need help, the veterinarian can get the latest pet information through apps.
- Contact function. In order to promote communication between user lovers, the pet exchange community is very important, in which users can conduct various exchanges and promote pet social activities.
- Pet store. In order to facilitate users to purchase pet products, pet stores can recommend them, and users of apps can purchase various pet products online for convenience.
- Positioning. By locating and tracking pets, users can better know the location of pets and are familiar with their favorite routes.

c. A list or paragraph outlining the constraints that might affect design.

- Client. Some of the users who keep pets are elderly people, and some elderly people are not good at using software and smart phones. How to take care of these groups when designing is a huge challenge.

d. A recommendation paragraph that includes

1. Key skills that will be needed to complete the project

- UI/UX. Good UI/UX design can greatly improve user satisfaction, so as to ensure the utilization rate of customers and increase the number of customers.
- Backend development. A good back-end development ensures the performance and safety of the app.
- Frontend development. A good front-end development can attract users' attention. Well-designed front-end can better highlight the core value of the app

- Familiar with API interface development, including your own ability to develop APIs and the experience of calling third-party APIs.

2. **A general list of equipment or resources that might be needed to facilitate design.**
    - GPUs, no special requirements
    - Headsets, no special requirements.

3. **A rough timeline for development and what personnel you'd recommend for each phase of development.**
    - 10 days. Understand the needs. Have an understanding of the design content. People with organizational experience need to lead the team to understand customer needs and communicate with customers.
    - 30 days. UI/UX design. Design a user-friendly UI/UX. Increase user experience. People who have rich experience in designing UI/UX.
    - 45 days. Backend. Ensure the operation and safety of the app. Back-end developer.
    - 45 days. Frontend. Design what users see. Front-end developer.
    - 15 days. QA. Test if the app is running as expected. Group leader