

Statement of Work

Project Title: AR Poster Reader

A. Introduction/Background

Accenture is an experienced firm which provides professional strategy, technology and consulting services for clients all over the world and have long term cooperation with Australia's most successful organisations. Accenture is dedicated to helping clients gain initiative in market competition and turn the client's ideas to business values.

Accenture have been thinking of how to make improvements to traditional printed posters/pamphlets which wastes natural resources and are difficult to update when information becomes outdated. As a result, they are usually expensive, inefficient, unattractive and environmentally impactful. However, digital posters with AR technology can help to solve these problems and give clients a new and engaging reading experience.

B. Objectives

The objective of this project is to further develop on the mobile phone-based application for AR poster viewing developed during the previous semester to solve the problems of traditional posters. To provide accurate and up-to-date information to the user, poster modification can be uploaded to replace obsolete poster elements. Last semester, the mobile application successfully scanned and provided information of a poster to users.

This semester, through this project, we want to gain further experience in real-world business methodologies, issue analysing and application development to make our application more attractive, intelligent and user-friendly.

The following are detailed goals of our team for this semester. To attract more users, the application increase features that users such as poster provider and consumers can engage. The final product will include functions that involves contribution of users such as poll and questionnaire. For intelligent, the system would apply machine learning algorithms to recommend the posters based on the favourite one of users, the system

would analyse the user habits and the user hobbies, and recommend them with the posters which have high similarity with their favourite ones. For user-friendly, better user interface would be developed to make the application look nicer, and more realistic AR models would be built this semester, the whole UI would be redesigned and make it more looks more commercial, some UI will be placed on top of the poster to help display further relevant information. This will be done through customer research and user testing to ascertain whether user interface is easily used by users.

C. Scope of Work

In the next three months, throughout the project, we will research on better UI , faster response(through new server), more intelligent (through machine learning), more user-friendly (through the overall improvement of user experience), internal and external testing (fix possible bugs). The final application would contain the main functions of poster viewing through scanning the physical poster, but also viewing a poster in diverse ways, poster saving, sharing and updating, and recommendation posters through favorite.

D. Deliverables schedule

| WEEK | DAY | TODO |
|--------|-----------|---|
| Week 2 | Monday | Discuss on improvements the team should work on as a team. |
| | Thursday | Discuss on direction of application development and create user stories. |
| Week 3 | Monday | Discuss with client and get to know their requirements. |
| | | Finish the Intellectual Property Agreement. |
| | | Review and discuss with client about the statement of work and sign it. |
| | Wednesday | Prepare for audit 1 |
| | Thursday | Audit 1 |
| Week 4 | Monday | Reflect on feedback from audit 1 |
| | Thursday | Discuss with shadow team about feedback |
| | | Started Sprints |
| Week 5 | Monday | Discuss with clients what we have already completed and get feedback on problems encountered. |
| | Thursday | Prepare for next week's audit. |

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| Week 6 | Monday | Practice presentation as well as practicing questions |
| | Thursday | Audit 2 |
| | | Start preparing for poster |
| | | End of sprint 1 and start of sprint 2 |
| Break 1 | Monday | Reflect on feedback from audit 2 |
| Break 2 | Thursday | End of sprint 2 and start of sprint 3 |
| Week 7 | Monday | Discuss direction of development / project |
| Week 8 | Monday | Continuing to follow the client's suggestion & Implement features |
| | | End of sprint 3 and start of sprint 4 |
| Week 9 | Friday | Project Poster due |
| Week 10 | Monday | Fix all the bugs during the test & Prepare for TechLauncher Showcase |
| | Thursday | Audit 3 |
| | | Project showcase |
| | | End sprint 4 and start sprint 5 |
| Week 12 | Thursday | End sprint 5 |

Stakeholders

Accenture: Supporting Development

What they do / How they Interact

Accenture is a company that focuses on improving existing organisations business models and driving entrepreneurship. They interact with the project through supporting and guiding the AR poster reader's development.

Expectations

Accenture expects to have a professional proof of concept application developed by the end of the semester that solves the problem statement. This application would utilise AR technology to display a digital poster which is personalisable to the user and allow for an interactive experience.

Benefits

Accenture will be able to provide extended support to companies Accenture is providing service to.

University Students: User

What they do / How they Interact

As per instructions by Accenture, we were to focus on developing using a use case where the users are university students. University students focus on viewing the posters for entertainment, educational or academic purposes. They interact with the project through downloading the app and using it to view the AR posters.

Expectations

Students expect the application would utilise AR technology to display a digital poster which is personalisable to the user and allow for an interactive experience.

Benefits

Students can obtain relevant details that cannot be covered by a traditional poster.

Poster Provider: Business Partner

What they do / How they Interact

The poster provider is an individual/organisation that is interested in advertising an event or product. They interact with the project through supplying a digital poster design that could be displayed through the application.

Expectations

The business partner expects a service to display their digital poster. The service includes accepting a certain form of digital poster, displaying said poster on an application through AR technology and providing a platform for sharing the poster. The poster provider will also have access to feature allowing them to update the information on their posters.

Benefits

The business partner may save cost by minimizing the waste, such as reprinting a poster due to an update or minimizing the copy of the posters to print. It is possible for the business partner to display and give information to user in diverse ways and allows for a more interactive user engagement.

Project Management Tools

The communication tools we use is the Slack

We put our documents on Google Drive which includes seven folders:

- Archive: legal documents and team information
- Audit: Audit detail information
- Development: Technical document description
- Meeting Notes: Meeting notes for each week within group and with clients
- Research: "Project Research" and "S.W.O.T Analysis" of SDK selection
- Sprints: development goals for different sprint of the project
- Trello Document: Trello descriptions and the meaning of formats and one "Acceptance Criteria for Essential Tasks"

We schedule our development through Trello. To find a detailed description please refer to the Trello Card Formatting Document.

All the corresponding code are on GitHub, in the folder named "ARPostReader"

Milestones, Scheduling, Deliverables

Milestones

- Decide on the new features of application development.
- Do customer research.
- Application can be personalised for users.
- Update posters.
- Design all the possible functions of our application.
- More tests on the essential functions.
- Attempt to use Machine Learning Algorithms for recommendation.
- Test the whole application.
- Document all the new functions.
- Improvement on code quality.
- Improvement on user interface.

Scheduling, Deliverables

Please see the table of Deliverable Schedule above

Constraints

- Reliability: Poster recognition problem due to external factors (e.g. lightning, paper material,etc).
- Workload: time arrangement, four course simultaneously, each students have set amount of workload per week.
- Budget - \$300 limitation set by techLauncher.

Resources

- Github
- Navicat for Mysql
- Adobe Illustrator
- Unity platform

- Unity Asset Store
- MySQL
- Vuforia (The New AR SDK)

Potential Costs:

- Phone, AR SDK for Business
- Apple platforms has potential publishing cost
- Cloud Server Costs, domain name costs
- Printing costs

Risks

| Risk (Type) | Description | Rate | Affect | How | Control Measures |
|------------------------------------|--|-----------|------------------|---|--|
| Interconnection issue (Technology) | The platform or SDK may change accessibility to premium only or some resources may no longer support each other. | Hazard | Developer | May need to change resources or preclude further development. | Mitigation - 1) There are lots of resources available on the internet. The team should research, find a substitute that will cause the least damage to the project. It will require a lot of time and work however, we can always ask for help from our clients or ANU for some advice; and, 2) Pay for premium version. This will save time and workload for developers. As each project team has access to \$300 budget, the team may choose to use budget to maintain the resource accessibility. |
| Lack of expertise (People) | This is a project that requires a diverse range of technical ability. While we believe we are equipped to meet these needs, there is a chance that our team might not be technically be capable of responding to some technical issues we will face. | Potential | Developer Client | It may slow development progress, or preclude further development | Preventative - we will work with the client early on to identify any gap in technical ability that we will need to resolve for the semester. Seeking assistance in learning when required. Mitigation - 1) we have an agreement with our client that whenever we cannot resolve we can email them. They will pass our issue on to an Accenture resource with the adequate ability to resolve the issue; and, 2) The ANU is home to a wide range of technical experts. There are resources |

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| | | | | | <p>there that we can request help from to resolve issues.</p> <p>Through mitigation 1 and 2 we believe we will have sufficient resources to resolve any technical issues we may face throughout the semester.</p> |
| Power outage (Equipment) | There might be a case of electricity shortage or internet outage. It may lead to unsaved changes or temporary preclude any development. | Potential | Developer | It may slow development progress | Preventative - Developers should push their new work or changes made on the product throughout the semester frequently to prevent majority lose of work. |
| Computer breakdown (Equipment) | One of the members' computers may become unavailable and they may not be able to work on any of their assigned tasks. | Potential | Developer | It may slow development progress | Mitigation - Maintaining the teams computers in a good working condition is a fundamental task to technology students. Nevertheless, It is one of the risks that cannot be prevented. However, as we have made an agreement with client, we may ask for a spare laptop available for use, or even ask our teammates or the ANU. |
| Lack of available testing devices (Equipment) | Android devices have released many versions over the years. It is not possible to have access to all kinds of android devices. | Potential | Developer Client User | The product may not be suitable for some mobile devices. | Preventative - Throughout the semester the team may perform user testing on a range of different mobile devices. It will allow the development team to ascertain which mobile devices are compatible with the product. |

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| Time Management (Time) | It is difficult to estimate the velocity of a sprint due to the changing time availability for each member of the team. | Potential | Developer | It may Overload the team members by assigning too much work to them. | Preventative - At the beginning of each sprint, the team gathers the time availability of each member of the team, thus an appropriate amount of work can be allocated. It can also be prevented by comparing the previously completed sprints' velocity. |
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Client's Vision and Objectives

Design a complete AR Reader that could be pushed to the market and be used by government agencies.

Vision :

The clients' vision is to provide an efficient, user-friendly and environmentally friendly medium that delivers information to users through AR technology.

Objective :

- To identify and provide the key information or relevant information to the users.
- To identify and understand stakeholders' needs and interests to provide better user experience.
- To provide a customised and easily accessible product for the users.
- To provide a customised product that will attract users.
- To ensure the reliability, by providing safe on-time services.
- To provide services with differentiated features from other products.
- To achieve efficiency by providing the solution to minimize the use of environmental resources and reduce cost.
- To manage the time and the budget by planning and removing unnecessary spendings.
- To increase motivation of the internal team.
- To ensure constant flow of the progress.
- To keep a good relationship between client and student.

Client
Signature

Lakhm

Date 27/8/2019

Product Summary

What has been done :

Last semester, AR Poster Reader has successfully developed a mobile application, HeyPoster. It utilises augmented reality technology to recognise poster and display key information from the poster while providing an interaction between a poster and a user.

For the convenience of users, user can create their own account, upload and favorite posters.

User interface was also developed in reasonable manner. Thus, users can easily recognize their functionality.

What to do now :

The AR Poster Reader team should aim to improve on user interface and provide further features that will differentiate the application to traditional paper poster. The team should work on customer research, user testing, update function, and personalisation. Thus, the application can attract more customers.

