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Project Proposal

**Background & Problem Statement**

“Customer expectation” of a product or service they are about to obtain is one of the factors that would affect their

satisfaction of the product or service [1]. This also applies to the hospitality industry, such as hotels [2] [3]. Customers would be

satisfied if what the product or service they receive equals to or exceeds their expectations, and would be dissatisfied

otherwise [2] [4]. In other words, service delivered below the customer’s expectation would result in dissatisfaction. *Similarly,*

a*dvertising a product or service, including hotels, that would result in an expectation different than the reality would also*

*result in dissatisfaction.*

Platforms such as Tripadvisor [5] allow users to view 2D photos of hotels, which would help them shape their expectations.

However, the plethora of negative reviews in many hotels on the website suggests that *their expectations could be better*

*shaped before they decide to stay at a hotel and make a booking.*

Virtual reality (VR) technology, which allows users to experience “environment” different than the users’ surroundings [6] ,

could be explored to see if the technology could help prospective customers in the hospitality industry shape their

expectations better. In the field of e-commerce, the technology has explored by researchers for shopping [7] [8] .

**Hypothesis**

We propose that prospective customers would have a more realistic expectations of their upcoming hotel rooms and

environment, if they were given a virtual reality experience of the rooms and environment, in addition to merely viewing 2D

photos of the hotel. This topic is related to e-commerce because people nowadays browse and book hotel stays

electronically – meaning both commerce (transactions/business) and electronic are involved in such processes.

**Methodology**

We will build an Android app that would *simulate* a hotel review and preview platform (like Tripadvisor [5]). However,

unlike existing apps, the app will allow users to not only view 2D photos of the hotels, but also have a 3D VR experience of

their upcoming hotels. The non-VR part of the app will either be implemented using Android Studio and/or Unity, and the

VR part of the app will be implemented using Unity. The VR part will utilize Google Cardboard [9] .

We will then test the app with 2 groups of users – one would only view 2D photos, while the other would be allowed to try

the VR experience. We will then have them fill a survey to determine how realistic their expectations are of the simulated

hotels in the app which they have viewed.

A possible limitation of the project is the realisticness of the 3D graphics – compared to captured VR videos for example,

the 3D graphics will probably not be as realistic. We currently plan to overcome the limitation by limiting the survey

questions to what can be reasonably inferred from *both* the 2D photos and the 3D VR experience, such as would this room

fit 3 person comfortably. Additional measures to overcome this predicted limitation may also be applied as the project runs.

**References**

1.

Almsalam S. The effects of customer expectation and perceived service quality on customer satisfaction. International Journal of Business and

Management Invention. 2014;3(8):79-84.

2.

Zhao Y, Xu X, Wang M. Predicting overall customer satisfaction: Big data evidence from hotel online textual reviews. International Journal of Hospitality

Management. 2019 Jan 1;76:111-21.

3.

Hua W, Chan A, Mao Z. Critical success factors and customer expectation in budget hotel segment—A case study of China. Journal of Quality Assurance

in Hospitality & Tourism. 2009 Mar 1;10(1):59-74.

4.

Oliver RL. A cognitive model of the antecedents and consequences of satisfaction decisions. Journal of marketing research. 1980 Nov;17(4):460-9.

5.

Read Reviews, Compare Prices & Book [Internet]. Tripadvisor. Available from: https://www.tripadvisor.com/

6.

Steuer J. Defining virtual reality: Dimensions determining telepresence. Journal of communication. 1992 Dec;42(4):73-93.

7.

Altarteer S, Charissis V, Harrison D, Chan W. Interactive virtual reality shopping and the impact in luxury brands. InInternational Conference on Virtual,

Augmented and Mixed Reality 2013 Jul 21 (pp. 221-230). Springer, Berlin, Heidelberg.

8.

Lee KC, Chung N. Empirical analysis of consumer reaction to the virtual reality shopping mall. Computers in Human Behavior. 2008 Jan 1;24(1):88-104.

9.

Google Cardboard [Internet]. Google Cardboard – Google VR. Google. Available from: https://arvr.google.com/cardboard/