**PATENT REQUEST FORM**

**De Jong**

**Harlan**

**Student Name:**

**FIRST NAME Family / last NAME**

4

3

3

8

2

8

9

**Student Number:**  Email: c3349828@uon.edu.au

**Course Code** **Course Title**

Professional Practice in IT

0

0

8

3

T

F

N

I

*(Example)*  *(Example)*

Intro to University

3

2

1

D

C

B

A

4

Campus of Study: Callaghan (eg Callaghan, Ourimbah, Port Macquarie)

8/4/22 11:59pm

Submission Date/Time:

Lecturer/Tutor Name: Teuku Geumpana

**NB: THIS FORM IS MADE ONLY TO FULFILL THE ASSESSMENT II REQUIREMENT OF INFT3800 – PATENT INNOVATION APPLICATION IN**

**By completing this form you consent to your academic information being handled in accordance with the University of Newcastle Code of Conduct.**

**This cover patent request form has been simplified and modified for the use in INFT3800 – Professional Practice in IT course. Please use Patent Request Form from IP Australia for real patent application**.

**PATENT REQUEST FORM**

**The applicant(s) is/are entitled to the grant of the patent.**

\*Invention Title

|  |
| --- |
| Augmented Reality Home Designer |
|  |
|  |
|  |

\*Name(s) of actual inventor(s)

|  |
| --- |
| Harlan De Jong |
|  |
|  |
|  |

I certify that any electronic version of this patent request form item that I have submitted or will submit is identical to this paper version.

Turnitin ID:

(if applicable)

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_8/4/22\_\_\_\_\_\_\_\_\_ 

UNIVERSITY OF NEWCASTLE

INFT3800 INNOVATION PATENT 2022

COMPLETE SPECIFICATION

INNOVATION PATENT

Augmented Reality Home Designer

The following statement is a full description of this invention, including the best method of performing it known to me:

Augmented Reality Home Designer

Technical Field

[0001] The Augmented Reality Home Designer is a part of the ICT technical field. It is classed as computer and automated business equipment.

Background

[0002] The Augmented Reality Home Designer uses augmented reality (AR) software, it displays computer-generated input into the physical world through devices possessing a camera. It is noted that the software that enables this uses it as a means for virtual interaction with non-present entities.

Summary

Technical Problem

[0003] For many years, home designers have utilised both sketching and software modelling to construct a blueprint for the design of homes. Previously people would need physically go to local furniture stores and guess whether the furniture item would fit or suit the design of their home. Costs associated with purchasing incorrectly fitting products are wasteful.

Solution to Problem

[0004] This invention has been explicitly crafted to allow designers to insert, view and create specific products that can be emulated within augmented reality. This phone application integrates three-dimensional virtual products into the physical home of users to allow better design and an in-depth look at the various products being sold at different stores. The ability to purchase these products directly through the application ensures it is both accessible and convenient.

[0005] The movement towards virtual design allows accessibility for anyone including the elderly and disabled. To remedy this the application will have built in functionality that allows the user to query selected stores furniture databases and in turn use these three-dimensional models. With these models or virtual furniture, it is possible to place it in any location within the house and viewed instantly from every angle. This eliminates the uncertainty of if an item will fit well in a space and look good, all from the comfort of their home.

[0006] The Augmented Reality Home Designer will not incur any fees when inserting the furniture into the virtual space, from the stores database. This will encourage users to freely use the augmented reality tool to experiment, place and view virtual objects in the home, users can transform their space by including the new virtual additions and assess if the aesthetics suit. Note that that there is no limit to the number of virtual objects that can be place in the virtual space.

[0007] In the event users are pleased with the redesign of the home, with the inclusion of new furniture, it is possible to purchase these products directly through the application. There is a user interface provided, that details the cost of all products placed within the virtual space and the respective stores that these products were sourced from. The payment process will accept credit, debit, and PayPal payments, as soon as the funds are received for the products, contact will be made to providers for the orders to be shipped immediately.

Advantageous Effects of Invention

[0008] The Augmented Reality Home Designer allows users to redesign their living space without the need to leave the home. The movement towards virtual planning will decrease costs associated with travelling to stores physically. All ages and disabled users can use this software ensuring an accessible environment.

Description of Drawing

[0009] Figure 1 depicts the mobile device using the augmented reality software to place a three-dimensional model of furniture into the virtual space layered upon the physical world.

Description of Embodiments

Examples

[0010] The application can be utilised on a tablet instead of a smartphone.

[0011] The augmented reality algorithm can be used elsewhere.

Claims

The claims defining the invention are as follows:

1. The augmented reality software enables users to capture images with their phones of the virtual space. The virtual space will consist of the original physical space but also an overlay of computer-generated models. Movement of the phone around the home will remain consistent with the physical environment that the mobile is capturing, and the overlayed virtual space will be constantly updated in real time.

2. The augmented reality software as claimed in claim 1 further comprising of three-dimensional models will be used within the virtual space. The models have size, shaped and location and will be fixed to the position the user selects, this will be displayed through the phone capture into the virtual space.

3. The augmented reality software as claimed in claim 2 further comprising of three-dimensional models can be viewed from all angles. As the user will be able to walk around and inside the virtual object via the physical space. The updated location of the mobile device will impose an angle change thus the three-dimensional models will be viewed differently.

4. The augmented reality software as claimed in claim 2 further comprising of three-dimensional models are legitimate products that are available at various physical stores. The virtual products are stored on databases within the store. The software pulls the models from the databases and represents them in the virtual space.

5. The augmented reality software as claimed in claim 4 further comprising of users being able to view the three-dimensional models within the virtual space without physically purchasing it. The application allows for a cost-free way for home design through digital means.

6. The augmented reality software as claimed in claim 4 further comprising of the ability to purchase the physical products directly through the application. Using a user interface, the user can opt to purchase products that suit the design of the house through viewing them within augmented reality. This process contacts the company immediately after an order has been made and delivery of physical product to user location will occur.

Abstract

A software designed to enable home design via augmented reality. The camera of the device displays the physical world and the application models virtual furniture and other objects into the space. The user can see the modelled products within the space and determine if the products suit the style and dimensions of the home with no cost associated. While walking around the physical space, the user can view the product from all angles. The user can purchase any virtual item seen in the augmented reality through the user interface on the application and it will arrive as the physical item with same dimensions.

Drawings

Diagram, engineering drawing, schematic

Description automatically generated

Figure 1