

Developing interest to share and craft based on the Technology Acceptance Model

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ABSTRACT

The Malaysian Ministry of Education aims to increase interest in learning Science, Technology, Engineering and Mathematics, through Science2Action. Among these initiatives in Science2Action, is the use of Art(s). By combining the Internet, technology and crafts, e-crafting is formed. This e-crafting project aims to increase awareness about what interests the audience through sharing of and development of craft, hopefully towards possibilities of ideation and mixing crafts, extending from the original craft such as origami. Designed based on the Technology Acceptance Model, findings are positive.

Keywords: e-crafting, audience interests, share, STEAM, Technology Acceptance Model

1. INTRODUCTION

Commonly known as an art trade or occupation that requires a special set of manual skills or an ability majoring in handiwork, crafting is an art in the making or doing. E-Crafting is making waves across the world. It provides more fun, convenience and can improve digital lifestyle. To craft, one needs to first ideate.

Ideation is key to Wing's (2006) computational thinking. Two capstone projects were undertaken under Sunway University's internal grant, to explore how images and augmented reality (first project) and craft (second project) can increase interest in Science, Technology, Engineering and Mathematics (STEM), improve ideation and improve digital lifestyles. These projects are exploratory. The first project was reported in Wong and Lee (2016). This paper reports on the second project, i.e., e-crafting. It continues from the work by Lee and Wong (2015) on developing social innovations among youth via design thinking and is inspired by Penn University's e-crafting.

1.1 Objectives

There are many types of crafts and e-crafts. Hence, the main objective is to increase awareness, interest and appreciation in crafts by enabling people to craft more by making it a fun art. Fun art is by enabling playing and editing around the craft, adding one's own thoughts into it.

Second, is by encouraging users to share interesting crafts with people around the globe. An added incentive is that currently, there is no platform without a fee. Platforms such as in Table 1 require membership and a

certain fee (Table 1). For people in today's era, things that come free are always the best and there is no harm trying as they will not lose out. Hopefully one day they will make their own crafts and we hope to produce successful young entrepreneurs for the future.

2. RELATED WORK

There are different types of e-crafting around the globe today. Examples of e-crafting can be a photoshop tool, self-made flying aero plane, and a useless box. Some other examples are in Table 1 and e-crafting's website.

Table 1. e-Crafting websites which require fees.

Platform A-Z list	Payment model	Price range	Offline?	Notes
Craft Daily https://www.craftdaily.com Main topics: Beading, Crochet, DIY, Jewelry Making, Knitting, Mixed Media, Quilting, Scrapbooking and Paper Crafts, Sewing, Spinning, Weaving.	Subscription	\$19.99 monthly or \$199.99 annual	Streaming only	Focus on crafts, subscription to interview video library. Run by Thought Industries who also run craftonlineuniversity.com Free? No free option or trial option.
Craftsy https://www.craftsy.com/ Main topics: Sewing & Quilting, Cake & Cooking, Yarn & Fiber Arts, Art & Photo, Home & Garden, More (Jewellery and paper)	Pay per course	£9.99 - 35.50	Offline with the app	Focus on crafts, some entrepreneurial topics. Discounts and frequent incentives entice purchases. Free? Selected Free course give an idea of how the platform works.

3. METHODOLOGY

To make it possible for people to share their work, an online platform is needed. There are two parts to this capstone project. One is a Facebook website and the other an online portal.

Target age group are 18-29 years old as they bring in new innovations and ideas. Most of them are youths in the Boys Brigade in Selangor, Malaysia. Craft is one of the skills learnt in Boys Brigade, similar to the Boy Scouts, Girl Guides.

Systems design and development follows the Software Development Lifecycle. Design and assessment are based on the Technology Acceptance Model (Davis, 1989) as presented in Figure 1.

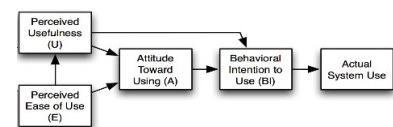


Figure 1. Technology Acceptance Model

Based on the Technology Acceptance Model (TAM) above, a questionnaire is given to users to find out whether the platform is a good idea, has its usefulness and ease of use. The initial survey consists of four students. At the end of the prototyping, another survey is carried out, on 10 students.

The system requirement specifications for this project are:

1. Database to store user account information.
 - 1.1. Log in, create account (integrated to Facebook)
2. A website platform for people to:
 - 2.1. Post and share their crafts
 - 2.2. View others crafts and also able to give opinions
 - 2.3. Crafts can be enhanced by others

For this current platform, users who upload crafts to the Facebook e-Crafting page will have their uploads at the website as well. At the moment, the data integration is done manually. In the future, it will be automated. An example of uploads to the Facebook site is in Figure 2.

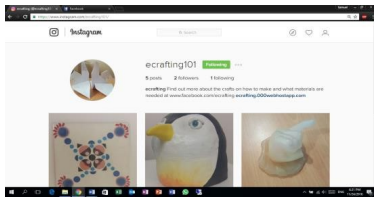


Figure 2. An Instagram page consisting of all the pictures of the art and crafts uploaded into the Facebook page.

4. FINDINGS

Based on the final survey, all ten students think it is a good idea to share crafts among users. Seven say that sharing is caring while three say that they have gained new knowledge and interest. All ten of them also think that technology and craft can go well together and that this website encourages them to share their crafts.

Nine of them said they learnt something useful from this website and only one did not learn anything useful. This may be due to different personal interests/preferences.

Next question, does this platform increase interest towards craft? Eight of the users said yes and two said no. This result also can be due to personal interests/preferences.

Most of the users feel pride, happiness, amazement and even creative when their craft is displayed and appreciated by people around them. This feeling makes them feel appreciated, making them share more of their ideas and crafts.

Based on the technology acceptance model, ease of use and intention to use have been considered. Eight of the users said it is easy to use and two said it is okay to use

and not hard or easy. As for the intention to use the platform again, all of them said they would use it again.

Facebook analytics for the week of Nov18 to Nov24 (the last week of testing) indicates reached 69 users, 41 page views, 282 post engagements and a total of 9 views for the videos (Figure 3).

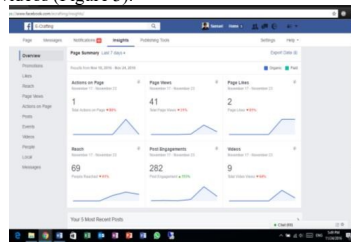


Figure 3. Facebook's analysis for the week of Nov18 to Nov24

5. CONCLUSION

This study shows that designing based on the Technology Acceptance Model can reap fruitful benefits, even to promote crafts and e-crafting. Possible extended users are seniors and their caregivers/ families whereby the website and portal can become a resource/community-sharing center. Adaptations to diverse users can be carried out through assessment of the resource's difficulty level and the contextual dialogues that can be generated from the respective resource.

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