The Innovation of Cre-Tourism Apps Using Google Map's API to Improve Teacher and Student Pedagogy

Ida Bagus Putu Puja, Anak Agung Gede Agung, I Gusti Ketut Arya Sunu, I Putu Wisna Ariawan

Postgraduate of Universitas Pendidikan Ganesha, Bali, Indonesia

Abstract

Introduction: Tourism and other forms of travel would not exist without that differentiation. Therefore, the primary purposes of tourism are the preservation of nature, culture, and diversity. It takes interesting learning to preserve cultural tourism.

Objectives: This study's goal is to offer an analysis of the usage of cre-tourism applications as a novel teaching tool in tourism-related courses to inspire and increase the pedagogy closely related to the psychology of teachers and students.

Methods: The Research development using the waterfall and then the acceptance test with UTAUT2. The participant for this research is 454 respondents in 2021-middle of 2022 post-Covid-19. Respondents are students, teachers, and the general public with demographics including age, gender, place of residence, use of mobile phones in a day, and the number of mobile phones owned, using SEM as an analytical technique, and waterfall as a model to develop the application.

Results: The findings revealed that Hedonic Motivation (HM) and Effort Expectancy (EE) positively influenced Behavior Intention. The Conclusion is that the influence of behavior intention can increase student creativity in using the application and as a companion to learning freely.

Conclusions: The study's implication and conclusion is that teachers can use the findings to make informed decisions regarding the creation of Android-based applications that are easy to use with GlideApps Google Map API features. Students who use applications are increasingly creative to try other features to try to improve their competence of using Android-based applications.

Keywords: teaching innovation, tourism, Google Maps, creativity, UTAUT2.

1. Introduction

Whether in the shape of landscapes, flora, or wildlife or in the form of culture, Due to distinctions, individuality, and location, tourism exists and evolves as a result of human creativity, intention, taste, and buddhi(Fan & Jia, 2023). Tourism and other forms of travel would not exist without that differentiation. Therefore, the primary purposes of tourism are the preservation of nature, culture, and diversity(Luo et al., 2023). Tourism resources must be conserved, including nature and culture with all their distinctiveness and peculiarities. Losing the distinctiveness of environment and culture also means losing tourism. It takes the usage of a media(Wibawa, Nuryana, et al., 2020)(Pusca & Northwood, 2021) that can be used by students in studying regional tourism(Jangra et al., 2021), especially on the island of Bali.

The three characteristics of tourism that must be able to realize the value of the life of regional communities is depicted in Figure 1 below. In opposition to that, tourism must be able to give service providers in the sector excellent opportunities, and on the other side, become more sustainable.
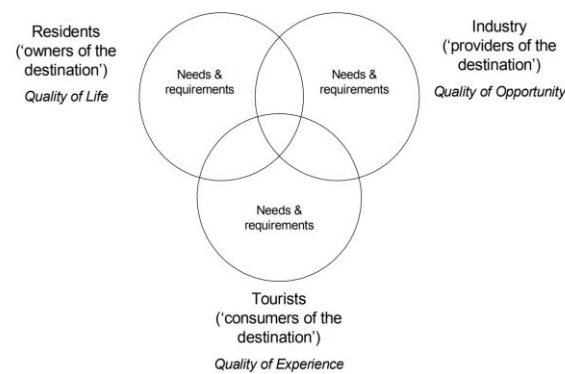
Figure 1. Tourism quality (Postma & Schmuecker, 2017)

The development of a tourist experience with the quality of experience is crucial. Based on Figure 1, a decision can be made that media is unique with tourism content and can be used as a student learning media that can elevate the quality of life in local communities, become a provider of the tourism industry and create a quality travel experience.
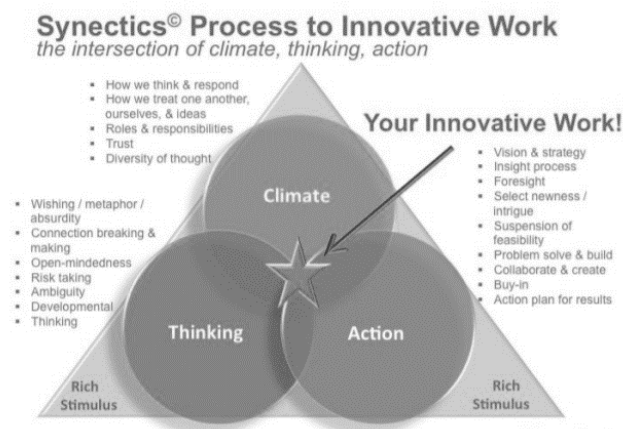
Figure 2. Synectic process to innovative students

To increase student creativity in the implementation of tourism, synectical innovation methods(Wibawa et al., 2019) are used which consist of 3 keys as figure 2, namely Climate, Thinking, and Action. Climate is the technique that is treated individually or additionally. Thinking in another way, not harder, about the difficulties and explanations. Actions are repetitive, repeatable procedures that need to be shadowed. When Climate, Thinking, and Action come together is synchronize, that's where novelty, breakthroughs, and innovations cominginto play. The material in the Cre-Tourism application in this study adopts the Synectic theory above.

The study that examine how the KaniMani Storytelling Mobile Application (KM-SMA) affects Tamil students' communication abilities and drive to learn the language through mobile apps (Ramalingam & Jiar, 2023). The investigation, which is based on Giorgi's descriptive phenomenology and the Community of Inquiry idea, looks at how instructors run online courses, how people connect with one another, and how this impacts how students learn (Tanucan, 2023). Within the context of students' past ICT knowledge and the institution's ICT infrastructure, this study aims to examine university students' preparation for and satisfaction with online learning (Ahmad et al., 2022). At a private institution in southern Ecuador, this study attempted to evaluate the efficacy of the "engage, study, activate" (ESA) method employing interactive technology tools (Cabrera-Solano et al., 2023). The research determine how students' writing output and the writing process they use in an online learning environment relate to one another (Andriani et al., 2022).

Based on the research above, it is stated that the involvement of information technology is needed to support learning carried out in the classroom and outside the classroom, asynchronously or synchronously. So, this research also wants to contribute to the use of ICT in terms of creative mobile-based online learning in the field of tourism.

Google Maps in this decade has been very helpful in determining the location, notifying the path, and knowing the congestion of a location accurately. Google Maps itself has an API that can be paired to Android-based applications, making it easier for programmers to create Google Maps-based programs. In its development, Google Maps API is widely used by large applications such as Gojek, Grab(Berger & Corner, 2009). In this study, the Google Maps feature was used to tell the position of tourist attractions, the directional path from the initial position to the destination position, if the location of the destination path is congested or not. Digital transformation (Fleaca et al., 2022) is needed in the world of tourism to remain successful in the era of disruption. The application to be developed will be like a game that respondents predict will like, because it is unique and can try to determine the distance between tourist attractions(Marisa et al., 2022). In addition, for teachers it is an inspiration to develop other learning methods using easy ICT. Meanwhile, students can add new tourist destinations in the application created, so they can create new creations in the application (Budiyanto et al., 2023) (Chandni & Rangjani, 2023).

In order to create an effective learning environment, educators need to understand the psychological principles associated with how individuals learn, motivate themselves, process information, and develop critical thinking. Knowledge of psychology can help educators design appropriate teaching strategies, meet student needs, and facilitate effective learning: (1) Learning Theory: Psychology plays an important role in the development of learning theory. For example, the theory of behaviorism developed by B.F. Skinner focuses on the relationship between external stimuli and observed behavioral responses (Coon et al., 2021). Cognitive theories, such as constructivism, emphasize the importance of mental processes, understanding, and construction of knowledge by individuals. In this regard, psychology's understanding of how individuals learn, and process information has an impact on the pedagogical approach adopted by educators, (2) Motivation and Teaching: Psychology provides insight into motivational factors in the context of learning. Motivation is an important factor that influences students' level of engagement, interest, and achievement in learning. Psychology discusses theories of motivation, such as theories of intrinsic and extrinsic motivation, and investigates factors that influence student motivation, such as psychological needs, expectations, and goals. An effective pedagogical approach should take these motivational factors into account and encourage students to stay motivated in the learning process, (3) Learning and Cognitive Development: Cognitive psychology studies the mental processes that occur when individuals acquire, process, store, and remember information. Theories of cognitive development, as proposed by Jean Piaget, provide an understanding of how children's thinking develops over time and how stages of cognitive development affect their ability to understand more complex concepts. This knowledge is essential for educators to design learning experiences appropriate to students' stages of cognitive development, (4) Problem solving and Creativity: Psychology contributes to the understanding of problem-solving processes and creativity in learning. The study of how people solve problems and generate creative ideas has provided insight into effective thinking strategies and how to improve students' problem-solving abilities and creativity. Pedagogical approaches that promote problem-solving and creativity can enrich students' learning experiences (Chow et al., 2023).

Pedagogy is the study of the learning and teaching process, including the methods, strategies, and approaches used to help students learn effectively. Meanwhile, technology-based applications or ICT (Information and Communication Technology) refer to the use of technology, such as computers, mobile devices, and the internet, in the context of education. The link between pedagogy and the use of technology-based applications is that technology can be a powerful tool to support and enhance the learning process. By integrating technology-based applications into pedagogy, educators can create more engaging, interactive, and relevant learning experiences for students. Here are some examples of how pedagogy and the use of technology-based applications are interconnected (Chase et al., 2020): (1) Increased accessibility: The use of technology-based applications can expand students' access to learning resources, whether through e-books, online learning videos, or distance learning platforms. This allows students to learn outside the classroom and access learning materials as per their needs, (2) Collaboration-based learning: Technology-based applications, such as online learning platforms or online collaboration tools, can facilitate group work, discussions, and shared projects among students. It supports a pedagogical approach focused on collaborative learning and shared problem solving, (3) Personalization of learning: Technology can help educators adopt pedagogical approaches that tailor learning to the individual needs of students. Adaptive learning apps use algorithms to tailor learning content and challenges to individual skill levels and student needs, (4) Learning experience enrichment: Technology-based applications such as simulation, augmented reality (AR), or virtual reality (VR) can be used to deliver immersive and immersive learning experiences. It helps students understand complex concepts, visualize abstract ideas, and stimulates their interest and motivation in learning, (5) Feedback and evaluation: Technology applications can also be used to provide immediate feedback to students, measure their progress, and facilitate formative evaluations. With the help of technology, educators can track student progress, identify areas that need improvement, and provide appropriate feedback individually(Andriani et al., 2022).

The use of technology-based applications in pedagogy has great potential to improve the effectiveness and efficiency of learning. However, it is important to ensure that the use of technology is based on clear learning objectives, supports sound pedagogical principles, and pays attention to the needs and characteristics of individual students, in line with Boeriswati's research that innovative in discovering fresh data learning (Boeriswati et al., 2023).

2. Research Methods

This research uses waterfall development and consumer acceptance validation with response perception UTAUT2 (Kilic et al., 2011)(Marake et al., 2022). The questionnaire presents questions to respondents in order to provide information or attitude (Xu & Zhou, 2022) of students about profiles according to the respondent's demographics and habits in using smartphones. These inquiries are intended to learn more about possible Cre-Tourism visitors. After completing the first section, participants are given information about how they use Cre-Tourism, including its advantages, features, and goals, to make sure they all have a common understanding of the Cre-Tourism apps. Cre-Tourism is an application that provides reading material for information on tourist attractions in Bali, Geo-position so that it can show the distance from the awa position to the destination of tourist attractions. Researchers wanted to know what respondents thought about the Cre-Tourism app. Cre-Tourism recommends some children read book titles. In each book, there is a parent guide provided. To involve children in their learning process, Cre-Tourism provides self-assessments that children can fill out with the help of parents. Cre-Tourism is an alternative to distance, face-to-face, or blended learning" that prioritizes student creativity. Additionally, it serves as motivation for educators to create new teaching strategies with simple ICT. Students may add additional tourist attractions to the developed application in the meanwhile, allowing them to make fresh inventions to the application.

The participant for this research is 454 respondents in 2021-middle of 2022 pasca Covid-19. Respondents based on table 1, student, teacher and the general public with demographics include; age, gender, place of residence, use of mobile phones in a day, and the number of mobile phones owned.

The waterfall method can be explained as figure 4: Phase I: the study of feasibility. The aim of the first step is to build a smartphone-based Creative Tourism application(Ibrahim et al., 2021), and determine what has to be designed and what functions. The specifications that the software must meet are outlined and listed at this point. Phase II: During this stage, the project's hardware and software requirements are determined. The data that will be displayed in this application, such as how to ask for materials and questions, what qualities are required or used, and how to ask for materials, must be able to be seen on the smartphone's display(Vitková et al., 2021).

Table 1. Respondent demography

Respondent Demography	Indicator	Number	Percentages
Age	15-20	9	10%
	21-25	53	58.9%
	31-35	25	27.8%
	others	3	3.3%
Gender	Female	59	65.6%
	Male	31	34.4%
Place of living	Nusa Dua	40	44.4%
	Denpasar	19	21.1%
	Tabanan	14	15.6%
	East Java	8	8.9%
	Badung	5	5.6%
	Negara	1	1.1%
	Klungkung	2	2.2%
	Karangasem	1	1.1%
	Outside Bali	4	5%
Phone usage	Everyday	82	91.1%
	Not very often	8	8.9%
Number of phones owned	One	18	20%
	More than one	72	80%
TOTAL		454	

The data can be spread by expading the questionnaire using Google Form, then the percentage column is obtained by comparing the data collected with the overall per demographic of respondents. Indonesian respondents were from various regions of Java and the island of Bali. From the last elementary school, they attended through high school, college, and public. The respondent's selection is based on educational background, because later this application can be applied in tourism schools as a companion for tourism students in the exposure of tourism in Bali. The Creative Tourism application is distributed through questionnaires, held around last year of 2021 and the beginning of year 2022, which is after the Covid-19 pandemic. The implementation of education using hybrid. Hybrid education, also known as blended learning, is a model that combines traditional classroom instruction with online learning. It can take different forms depending on the specific needs and goals of a particular educational institution or program. Overall, hybrid education offers the flexibility of online learning while still providing the benefits of face-to-face instruction, such as personal interaction with teachers and classmates, and hands-on learning opportunities. However, as figure 3 by using waterfall, it requires careful planning and design to ensure that it is effective and meets the needs of both students and educators.
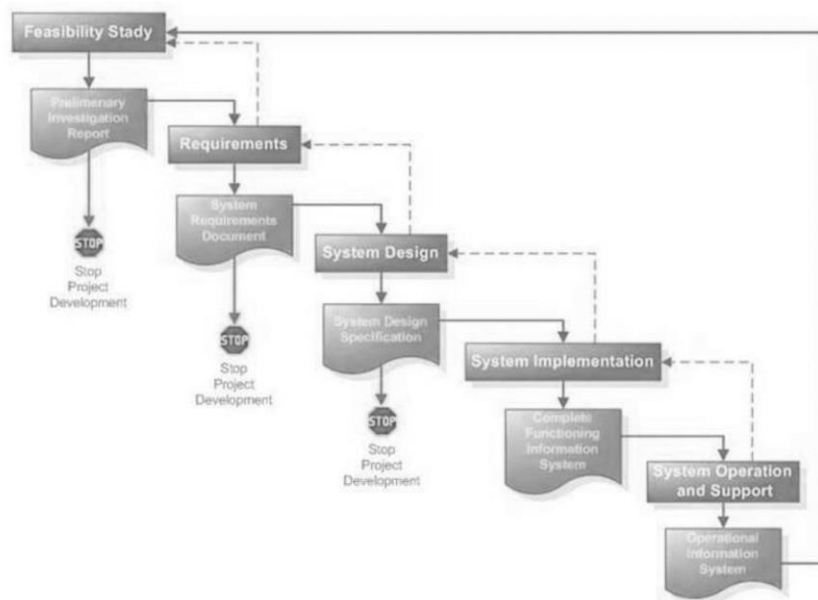

Figure 3. Waterfall development method(Wibawa, Sulistiyo, et al., 2020)

Program flow diagrams or published software code is part of Phase III of the system design process, and they are dependent on the first two sections to be implemented correctly. In the subsequent installation, this installation design's implementation is fully completed. The evaluation phase is looked at, and the design phase is carried out utilizing the new assets, if there are any design code requirements during the project phase. To determine whether there are any design code requirements during the project phase, the assessment phase is examined, and the scheme phase is then carried out while utilizing the new assets. Phase IV: Software flowchart coding or algorithm-based coding is completed. Ideas and application flowcharts are tangibly manifest at this point. Executing the previous stage precisely provides the simplicity and ease of this level. Making an Android-based Creative Tourism application with GlideApps, which is very easy, is a fundamental contribution to this research that can be used as a reference for other researchers in developing applications and usage to supporting creative learning. Please note that in this phase, the coding done is limited to drag and drop and only creates a high-level thinking flow that directs the purpose of the application with Google sheets. And in this phase is the last programming flow so that this application is ready to use.
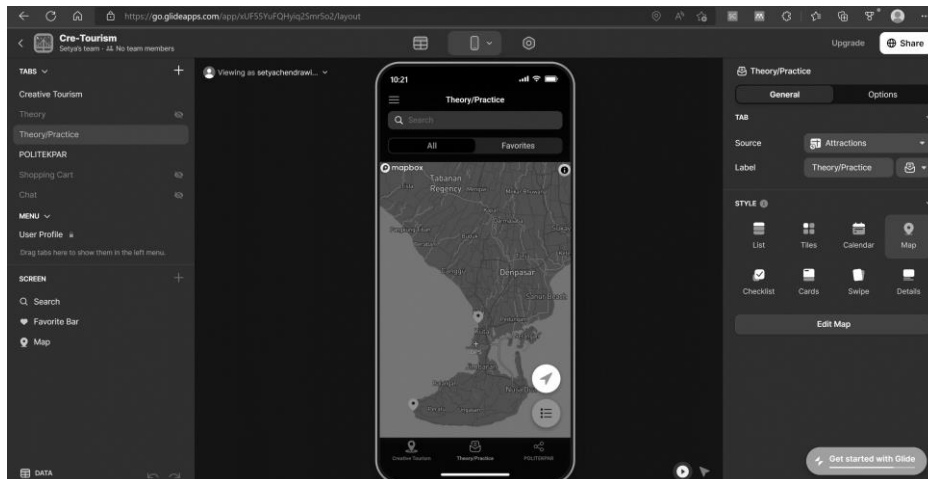
Figure 4. Application visualization creative tourism

At this stage, the application is created with the help of Glideapps online and the implementation of Google Maps as figure 4. No coding skills are needed to make this application, post-creation is also very easy because this application is based on Google, namely Google Sheets as figure 5.
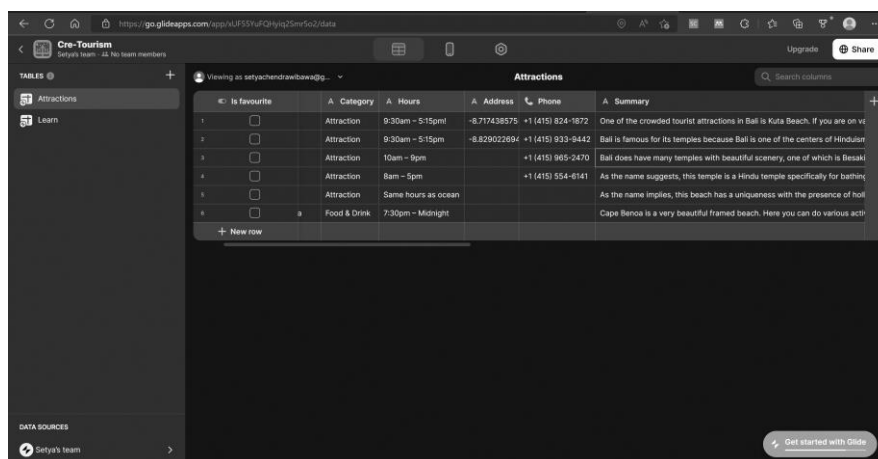

Figure 5. Database base on Google sheets

Glideapps is ideally suited for its development because of the very quick data changes and real-time views that are visualized. The process here is also very helpful for other researchers who want to disseminate the results of their research widely with Android-based applications such as the process figure 6. Here are the general steps to create an application using Glideapps; (1) Create an account on Glideapps: to create an application using Glideapps, it needs to create an account on their platform. It can sign up for a free account using the Google or Microsoft account. (2) Create a new app: once It've logged in, it can create a new app by clicking on the "New App" button. It can choose to start from scratch or use one of the templates available on the platform. (3) Customize the app: It can customize the app by adding pages, setting up the data, and designing the user interface. It can use the drag-and-drop interface to add elements like text, images, and buttons to the app. (4) Set up the data: to create a functional app, it need to set up the data. This involves creating a Google Sheet and defining the columns it wants to use in the app. (5) Create relationships between data: it can create relationships between data in the app by using the "Relations" feature. This allows it to link different sheets together and create a more robust app. (6) Test and publish the app: Once finished customizing the app, it can test on different devices and make any necessary adjustments. When ready to publish the app, it can do so by clicking on the "Publish" button. (7) Share the app: Finally, it can be sharing the app with others by providing them with a link or embedding it on a website. It can also publish the app to the app store for iOS and Android devices using Glideapps' publishing service.

The figure 7 shows that to share the application using link or barcode, and setting other like privacy, collect the data, etc. To share a link using a QR code or barcode in Glideapps, follow these steps; (1) Create a QR code or barcode: It can use an online QR code or barcode generator to create a code for the link. There are many free and

paid tools available for this purpose. Simply enter the URL of the Glideapp and generate the code. (2) Add an image component to the app: in Glideapps, it can add an image component to the app by clicking on the "Add Component" button and selecting "Image". (3) Upload the QR code or barcode image: Once It've added the image component, it can upload the QR code or barcode image to the app by clicking on the "Upload" button and selecting the file from the device. (4) Link the image to the app: to link the QR code or barcode image to the app, click on the "Link" option in the image component settings and paste the URL of the Glideapp. (5) Test the link: finally, It can test the link by scanning the QR code or barcode image with a mobile device. This will take It to The Glideapp in the browser or the Glideapps app, if installed

Phase V: Testing The test code is now inserted and created to the following when application coding and added google maps is finished. The system is created in line with the intended specifications, and any software flaws are examined.
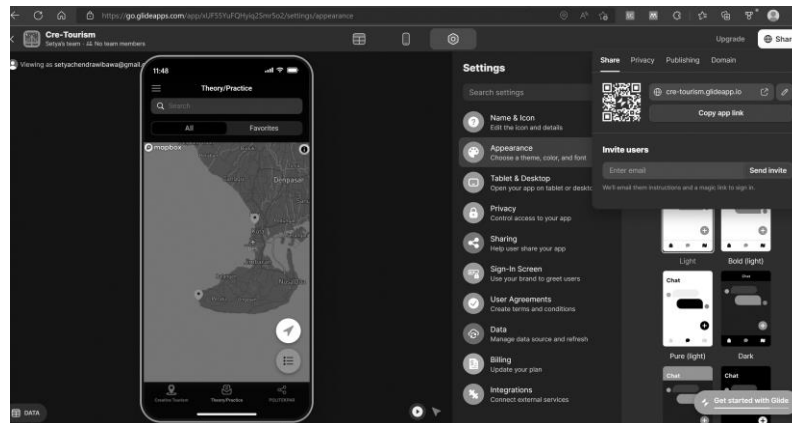
Figure 6. Display settings with GlideApps

If this paper is adequately completed, students interested in the developed software will be satisfied with the results. If the design has errors, the software development process must be changed. Changes are made in the design, and then the changes are coded and tested again. Phase VI: Creation of the UTAUT2 model admissions software. Execution must be exact from all earlier phases, ensuring that the application complies with the guidelines, and, most importantly, guarantee that the student is happy. At this point, though, it could be required to give students assistance using the created tools. If the student requests that the current program be improved further, the construction process must be restarted from the specifications. This investigation is still restricted to media-validating substance professionals. As stated in table 1, this phase employs the User Acceptance Test for the UTAUT2 response evaluation. Regarding the developed tools, support to students can be required. The development process must start over from the specs if the student demands that the current application can be enhanced. This research is still restricted to media-validating material professionals. As stated in table 1, this phase employs the User Acceptance Test for the UTAUT2 response evaluation. If the student requests that the current program be improved further, the improvement process must be restarted from the specifications. This investigation is still restricted to material specialists who support the media. According to table 2, this phase employs the User Acceptance Test for the UTAUT2 response assessment.

Table 2. UTAUT2 indicators and questionnaires(Septiani et al., 2017)(Utomo et al., 2021)

Indicator	Code	Items	Adapted from
Performance Expectancy-PE	PE1	Cre-Tourism application is beneficial for my daily life when accompanying learning about tourism media	(Piarna et al., 2020)
	PE2	Cre-Tourism helps to learn media tourism.	
	PE3	Cre-Tourism helps students to learn faster about tourism	
	PE4	Cre-Tourism helps the student to choose a quality book.	
Effort Expectancy-EE	EE1	Cre-Tourism is easy to operate and understood.	(Utomo et al., 2021)

	EE2	Cre-Tourism is not hard to use.	
	EE3	Easy for me to master Cre-Tourism.	
Social Influence-SI	SI1	Important people around me think that I must use Cre-Tourism.	(Hidalgo-Hidalgo et al., 2021)
	SI2	Persons who inspire my behavior think that I must use Cre-Tourism.	
	Si3	Persons whose feelings I respect like to use Cre-Tourism.	
Facilitating Conditions-FC	FC1	I have the assets (internet connections and an android phone) needed to operate Cre-Tourism.	(El-Khatib & Barki, 2012)
	FC2	I have enough information to use Cre-Tourism.	
	FC3	I know an expert who can help me if I have a problem using Cre-Tourism.	
Hedonic Motivation-HM	HM1	I feel happy when using Cre-Tourism.	(Brown et al., 2010)
	HM2	I am not comfortable using Cre-Tourism.	
	HM3	I enjoy using Cre-Tourism.	
Price Value-PV	PV1	I feel the quota I use for Cre-Tourism makes sense.	(Zeithaml, 1988)
	PV2	I will feel the service Cre-Tourism offer is in line with its justification.	
	PV3	I am willing to buy a special internet quota so I can use Cre-Tourism at all times.	
Habit-HB	HB1	I am used to an application like Cre-Tourism.	(El-Khatib & Barki, 2012)
	HB2	I feel that I have always used Cre-Tourism	
	HB3	If I want to learn tourism, I will use Cre-Tourism.	
Behavior Intention-BI	BI1	I always want to utilize Cre-Tourism in the forthcoming.	(Sultan et al., 2020)
	BI2	People around me are unhappy using Cre-Tourism.	
	B13	I feel that Cre-Tourism has run well.	

3. Results

The results of this study through the waterfall stage, namely feasibility studies, software requirements, system design, coding, limited code testing, resulted in Creative Tourism applications as shown in Figure 8 below. The QR Code image is used to scan and download the app.

Then software development with consumer acceptance test with UTAUT2. Utilizing version 3 of the SmartPLS software, the data analysis technique employs structural equation modeling-partial least squares (SEM-PLS). Two models are used in the PLS calculation stages: the structural model testing and the measuring model (outer model) (inner model). The external model is the connection between the indicator and its construction. If the loading factor value is more than 0.5 then it has good validity. The significance is determined by the T statistic's value and the P statistic's value. If Tstatistic > 1.96, the path can affect significantly.

Figure 8: Creative Tourism (Cre-Tourism) application display

The hypothesis' acceptability is also determined by the route coefficient value. If the path coefficient value < 0.05 then the path has a significant effect. Table 3 reveals a summary of the results of the hypothesis test. The discussion for each variable according to the hypothesis is explained as follows:

Table 3: Data analysis with SmartPLS

Path Corre-lation	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistic (|O/ STDEV|)	P Values
EE -> Intention	0.267	0.249	0.098	2,737	0.006
FC -> Intention	-0.072	-0.049	0.091	0.795	0.427
HB -> Intention	0.182	0.183	0.109	1,678	0.094
HM -> Intention	0.372	0.362	0.116	3,207	0.001
PE -> Intention	0.043	0.047	0.069	0.617	0.538
PV -> Intention	0.078	0.073	0.142	0.550	0.582
S -> Intention	0.188	0.190	0.084	2,249	0.025

Based on table 4, it can be explained as follows: H1: Performance expectations positively impact on students' behavioral intentions to accept Cre-Tourism as a medium for learning about tourism. The results of data processing show that the T-statistic on Performance Expectancy is 0.6, and the path coefficient of the Path Coefficient is 0.53. T-statistic < 1.96 and path coefficient > 0.05, H1 is rejected. Expectations of performance don't significantly and favorably influence behavior intention. H2: Students' behavioral intents to accept Cre-Tourism as a tool for learning about tourism will benefit from social influence. The results of data processing show that the T-statistic on Social Influence is 2.249, and the path coefficient is 0.025. T-statistic > 1.96 and path coefficient < 0.05, H1 is accepted. Social impact affects behavior intention favorably. H3: Conditions for facilitation will have a favorable effect on students' behavioral intentions to accept Cre-Tourism as a medium for learning about tourism.

The results of data processing show that the T-statistic on Facilitating Conditions is 0.795, and the path coefficient is 0.427. T-statistic < 1, 96 and path coefficient > 0, 05, H1 is rejected. Facilitation Conditions do not have a positive influence on behavior intention. H4: Business expectations or ease of use of technology will have a positive impact on students' behavioral intentions to accept Cre-Tourism as a medium for learning about tourism. The results of data processing show that the T statistic for ease of use is 2.737, and the path coefficient is 0.025. T-statistic > 1, 96 and path coefficient < 0, 05, H1 is rejected. The ease of using technology has a positive and significant affect on behavior intention. H5: Hedonic motivation will have a positive impact on students' behavioral intentions to accept Cre-Tourism as a medium for learning about tourism. The results of data processing show that the T statistic on hedonic motivation is 3.207, and the path coefficient is 0.01. T-statistic > 1.96 and path coefficient = < 0.05, H1 is accepted. Hedonistic motivation has a substantial and advantageous impact on 1.96 and path coefficient = < 0.05, H1 is accepted. Hedonic motivation significantly and favorably influences 1.96 and path coefficient = < 0.05, H1 is accepted. The intentions diversies students are significantly and favorably influenced by hedonistic motivation. H6: Habits will have a positive impact on students' behavioral intentions to accept Cre-Tourism as a medium for learning about tourism. The outcome of data treatment show that the habit statistic is 1.678, and the path coefficient is 0.094. T-statistic < 1.96 and path coefficient = > 0.05, H1 is rejected. Habits do

not have a significant and positive influence on student intention. H7: Price Value has a positive and significant effects on brilliant student's intention is not significantly and favorably impacted by price value, on students' intention to use Cre-Tourism as a medium for learning about tourism. The outcomes of data processing demonstrate that the T-statistic at the price value is 0.550 and the path coefficient is 0.582. T-statistic < 1.96 and path coefficient = > 0.05, H1 is rejected. A brilliant student's intention is not significantly and favorably impacted by price value.

Table 4: Summary of hypothesis test result

Hypothesis	Description	Status
H1	Performance Expectancy -> Behavior Intention	Rejected
H2	Social Influence -> Behavior Intention	Accepted
H3	Facilitating Condition -> Behavior Intention	Rejected
H4	Effort Expectancy -> Behavior Intention	Accepted
H5	Hedonic motivation -> Behavior Intention	Accepted
H6	Habit -> Behavior Intention	Rejected
H7	Price value -> Behavior Intention	Rejected

The environment has a big impact on people who use technology. This finding is in line with the investigation performed by Venkatesh; the environment has a strong influence. Social impacts affect technology acceptance. Business expectations have a positive and significant effect on the desire for students to use Cre-Tourism when studying tourism. Users find Cre-Tourism easy and friendly to use. Previous statements have led to the perception that Cre-Tourism is very helpful and creates comfort when used. When studying tourism, hedonic motivation significantly and favorably affects students' desire to use Cre-Tourism. Hedonic motivation is related to the pleasure of using technology. Users find it fun and useful.

4. Discussion

The contribution of this study is to offer firsthand knowledge of using tourism-related applications that can affect behavior intention. So based on the results of the analysis that behavior intention gets full attention so that the Creative Tourism application can be accepted as a companion application in the field of tourism and can improve the creativity performance of students according to research (Venkatesh et al., 2012). According to research (Nikolopoulou et al., 2021), user intending to use the application can be significantly predicted by performance expectations, technological, pedagogical knowledge, and hedonic motivation. It is clear that hedonic motivation (HM) and effort expectancy (EE) have a favorable effect on behavior intention. In particular, the study highlights the positive impact of hedonic motivation and effort expectancy on user behavior intention. By prioritizing behavior intention and considering the factors that influence it, developers can design applications that are more likely to be accepted and used by users. This could ultimately lead to greater adoption and success of the application in the target market. The implication of the study is that teacher can use the findings to make informed decisions regarding the creation of Android-based applications that are easy to use with GlideApps Google Map API features. Students who use applications are increasingly creative to try other features to try to improve the competence of using Android-based applications. So that psychologically teachers and students can be collaborated in the use of the Cre-Tourism application to improve learning outcomes.

Refrences

1. Ahmad, R., Nagasundram, U., Sharif, M. N. M., Yaacob, Y., Mahmud, M. M., Ishak, N. S., A'Seri, M. S. M., & Ibrahim, I. (2022). Information and Communications Technology (ICT) as a Teaching and Learning Tool: A Study of Students' Readiness and Satisfaction. *International Journal of Learning, Teaching and Educational Research*, *21*(10), 381–394. https://doi.org/10.26803/ijlter.21.10.21
2. Andriani, L., Syihabuddin, Sastromiharjo, A., & Anshori, D. (2022). The Role of Writing Process Components and Cognitive Components in Improving the Quality of Narrative. *International Journal of Learning, Teaching and Educational Research*, *21*(12), 88–106. https://doi.org/10.26803/ijlter.21.12.5

3. Berger, E., & Corner, M. (2009). *Computer Systems Principles*.

4. Boeriswati, E., Sengkey, A. R. J., Kamin, Y., Arung, F., & Prayitno, H. J. (2023). Development of Teaching Intellectual Social-Emotional Learning Model in Strengthening Pre-Service Teacher. *Journal for Re Attach Therapy and Developmental Diversities*, *6*, 478–487. https://www.jrtdd.com/index.php/journal/article/view/741/514

5. Brown, S., Dennis, A., & Venkatesh, V. (2010). Predicting collaboration technology use: Integrating technology adoption and collaboration research. *Journal of Management Information Systems*, *27*(2), 9–54. https://doi.org/10.2753/MIS0742-1222270201

6. Budiyanto, A., Hardhienata, S., & Sunaryo, W. (2023). Improving Teacher Work Productivity During Strengthening Situational Leadership , Quality of Work Life , and Effectiveness of Training Programs. *Journal for Re Attach Therapy and Developmental Diversities*, *6*, 317–327. https://jrtdd.com/index.php/journal/article/view/722/497

7. Cabrera-Solano, P., Ochoa-Cueva, C., & Castillo-Cuesta, L. (2023). Implementing the Engage, Study, Activate Approach Using Technological Tools in Higher Education. *International Journal of Learning, Teaching and Educational Research*, *22*(1), 268–282. https://doi.org/10.26803/ijlter.22.1.15

8. Chandni, L., & Rangjani, V. A. (2023). Asia ' s Travel Sector after the Pandemic Situation : Psychological Impacts and Revival Strategies. *Journal for Re Attach Therapy and Developmental Diversities*, *6*, 634–640. https://www.jrtdd.com/index.php/journal/article/view/760/528

9. Chase, A., S. Rao, A., Lakmala, P., & Varma-Nelson, P. (2020). Beyond content knowledge: transferable skills connected to experience as a peer-leader in a PLTL program and long-term impacts. *International Journal of STEM Education*, *7*(1), 1–10. https://doi.org/10.1186/s40594-020-00228-1

10. Chow, J. Y., Meerhoff, L. A., Choo, C. Z. Y., Button, C., & Tan, B. S.-J. (2023). The effect of nonlinear pedagogy on the acquisition of game skills in a territorial game. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1077065

11. Coon, D., Mitterer, J. O., & Martini, T. S. (2021). *Introduction to psychology: Gateways to mind and behavior*. books.google.com. https://books.google.com/books?hl=en%5C&lr=%5C&id=6OUXEAAAQBAJ%5C&oi=fnd%5C&pg=PP1%5C&dq=employabiity+skill%5C&ots=_cAYoJyh7s%5C&sig=Y4iv2AWmiST0VDOH8TMCNnuPgX8

12. El-Khatib, R., & Barki, H. (2012). The relationship between habit and intention in postadoptive IS acceptance. *18th Americas Conference on Information Systems 2012, AMCIS 2012*, *5*(August 2012), 3723–3731.

13. Fan, D. X. F., & Jia, G. (2023). How do tourists respond to meta-stereotypes? Understanding their willingness to interact, self-presentation and the role of power. *Tourism Management*, *94*(September 2022), 104652. https://doi.org/10.1016/j.tourman.2022.104652

14. Fleaca, B., Fleaca, E., & Maiduc, S. (2022). Digital Transformation and Current Challenges of Higher Education. *TEM Journal*, *11*(3), 1235–1241. https://doi.org/10.18421/TEM113-32

15. Hidalgo-Hidalgo, M., Jiménez, N., & López-Pintado, D. (2021). Social influence and position effects. *Journal of Economic Behavior and Organization*, *182*, 113–131. https://doi.org/10.1016/j.jebo.2020.11.031

16. Ibrahim, I., Saad, M. S. M., Noor, A. R. M., & Rawi, A. H. M. (2021). The Perception of Engineering and ICT Students on Group Leaders' Ethics in Group Project Implementation: A Case in a Technical University. *World Transactions on Engineering and Technology Education*, *19*(2), 244–248.

17. Jangra, R., Kaushik, S. P., & Saini, S. S. (2021). An analysis of tourist's perceptions toward tourism development: Study of cold desert destination, India. *Geography and Sustainability*, *2*(1), 48–58. https://doi.org/10.1016/j.geosus.2021.02.004

18. Kilic, D. S., Emsen, P., & Soran, H. (2011). Behavioral intention towards laboratory applications in science teaching. *Procedia - Social and Behavioral Sciences*, *28*, 416–420. https://doi.org/10.1016/j.sbspro.2011.11.079

19. Luo, X., Hu, J., Wan, L. C., & Yi, X. (Shannon). (2023). Restriction reduction: The effects of mobility restriction on consumers' preferences for advertisements of tourism products. *Tourism Management*, *94*(July 2022), 104638. https://doi.org/10.1016/j.tourman.2022.104638

20. Marake, M., Jita, L. C., & Tsakeni, M. (2022). Science Teachers' Perceptions of Their Knowledge Base for Teaching Force Concepts. *Journal of Baltic Science Education*, *21*(4), 651–662. https://doi.org/10.33225/jbse/22.21.651

21. Marisa, F., Rudiansyah, M., Alexandro, R., Nathasia, N. D., Pudjoatmojo, B., & Maukar, A. L. (2022). The Intelligent Silaturrahmi-Based Gamification Mechanics Model for Improving Small and Medium Enterprise Collaboration. *TEM Journal*, *11*(3), 1185–1192. https://doi.org/10.18421/TEM113-25

22. Nikolopoulou, K., Gialamas, V., & Lavidas, K. (2021). Habit, hedonic motivation, performance

expectancy and technological pedagogical knowledge affect teachers' intention to use mobile internet. *Computers and Education Open*, *2*(July), 100041. https://doi.org/10.1016/j.caeo.2021.100041

23. Piarna, R., Fathurohman, F., & Purnawan, N. N. (2020). Understanding online shopping adoption: The unified theory of acceptance and the use of technology with perceived risk in millennial consumers context. *JEMA: Jurnal Ilmiah Bidang Akuntansi Dan Manajemen*, *17*(1), 51. https://doi.org/10.31106/jema.v17i1.5050

24. Postma, A., & Schmuecker, D. (2017). Understanding and overcoming negative impacts of tourism in city destinations: conceptual model and strategic framework. *Journal of Tourism Futures*, *3*(2), 144–156. https://doi.org/10.1108/JTF-04-2017-0022

25. Pusca, D., & Northwood, D. O. (2021). Teaching and learning engineering design: creative methods for remote education. *World Transactions on Engineering and Technology Education*, *19*(3), 306–312.

26. Ramalingam, K., & Jiar, Y. K. (2023). The Impact of KaniMani Storytelling Mobile Application (KM-SMA) on Tamil Students' Speaking Skills and Motivation in Learning Tamil. *International Journal of Learning, Teaching and Educational Research*, *22*(1), 129–142. https://doi.org/10.26803/ijlter.22.1.8

27. Septiani, R., Handayani, P. W., & Azzahro, F. (2017). Factors that Affecting Behavioral Intention in Online Transportation Service: Case study of GO-JEK. *Procedia Computer Science*, *124*, 504–512. https://doi.org/10.1016/j.procs.2017.12.183

28. Sultan, P., Tarafder, T., Pearson, D., & Henryks, J. (2020). Intention-behaviour gap and perceived behavioural control-behaviour gap in theory of planned behaviour: moderating roles of communication, satisfaction and trust in organic food consumption. *Food Quality and Preference*, *81*, 103838. https://doi.org/10.1016/j.foodqual.2019.103838

29. Tanucan, J. C. M. (2023). The Difficulties of Teaching Traditional Filipino Games Online. *International Journal of Learning, Teaching and Educational Research*, *22*(3), 108–127. https://doi.org/10.26803/ijlter.22.3.7

30. Utomo, P., Kurniasari, F., & Purnamaningsih, P. (2021). The Effects of Performance Expectancy, Effort Expectancy, Facilitating Condition, and Habit on Behavior Intention in Using Mobile Healthcare Application. *International Journal of Community Service & Engagement*, *2*(4), 183–197. https://doi.org/10.47747/ijcse.v2i4.529

31. Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Venkatesh_Thong_Xu_MISQ_forthcoming (GENDER AGE EXPERIENCE). *MIS Quarterly*, *36*(1), 157–178.

32. Vitková, Ľ., Kasala, V., Lemak, O., & Nováček, O. (2021). Urban design teaching and social inclusion. *World Transactions on Engineering and Technology Education*, *19*(3), 324–330.

33. Wibawa, S. C., Maspiyah, Indriyanti, A. D., Prehanto, D. R., Sumbawati, M. S., Mashudi, & Dharmayanti, D. (2019). Teaching Applied: Synectics Application using Leadership Instructional on Creative Design Subject for Upgrading Creativity. *Journal of Physics: Conference Series*, *1387*(1). https://doi.org/10.1088/1742-6596/1387/1/012068

34. Wibawa, S. C., Nuryana, I. K. D., Prismana, I., Dermawan, D. A., Manyu, A., & Frianto, A. (2020). Designing of Android Based Learning (Mobile Learning) for Multidiscipline Students Designing of Android Based Learning (Mobile Learning) for Multidiscipline Students. *Journal of Physics: Conference Series*, *1569*. https://doi.org/10.1088/1742-6596/1569/2/022015

35. Wibawa, S. C., Sulistiyo, E., Martiningsih, N. G. A. G. E., Handoyo, E., & Johan, A. (2020). Moodle mobile development in enjoyable learning in computer system subjects. *IOP Conference Series: Materials Science and Engineering*, *830*(3). https://doi.org/10.1088/1757-899X/830/3/032017

36. Xu, S. R., & Zhou, S. N. (2022). the Effect of Students' Attitude Towards Science, Technology, Engineering, and Mathematics on 21St Century Learning Skills: a Structural Equation Model. *Journal of Baltic Science Education*, *21*(4), 706–719. https://doi.org/10.33225/jbse/22.21.706

37. Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, *52*(3), 2–22. https://doi.org/10.1177/002224298805200302