Druk Driglam Namzha Application:
A Study on Integrating 2-D Animations in Mobile App to Promote the Driglam Namzha Of Bhutan

Eusang Lhaki Dorji[1], Thinley Choden[1], Praneesha Acharya[1], Parshu Ram Dhungyel[2],
Information and Technology, College of Science and Technology, Royal University of Bhutan
eusang.eld@gmail.com[1], chodenthinley1018@gmail.com[1], pracharya1998@gmail.com[1],
parshuram.cst@rub.edu.bt [2]

Abstract

Driglam Namzha represents the code of conduct that needs to be used on a daily basis for a Bhutanese. With modernization, youths are exposed to multiple cultures, hence, innovative methods are needed to promote Driglam Namzha. This paper presents the importance of Driglam Namzha and aims to understand the feasibility of using an app with 2-D animations to preserve and promote Driglam Namzha. A qualitative study was carried out to understand the nature of using animations for teaching purpose and a survey was also carried out amongst the Bhutanese to understand the users' preference. The findings of the paper shows that Driglam Namzha helps in personal growth as well as impacts the harmony in a society. The result presents Driglam Namzha Application with animations showing the code of conducts as a good approach to supplement Driglam Namzha classes to promote Driglam Namzha of Bhutan.

Keywords: Driglam Namzha, 2-D Animations

1. Introduction

As per (Yoezer), Driglam Namzha is defined as two separate components. Driglam is the set of etiquettes that has to be embedded as the foundation and followed by one's body, mind and speech while carrying out any type of spiritual or daily activities to maintain order. Namzha has more to do with one's inner characteristic like how we respect each other, following ethics, being loyal and preserving our culture. Driglam Namzha is also defined as the system of wholesome behavior for a Bhutanese. Tracing back to the early days, each village had a different way of doing things and also had different set of definition for what to consider good or bad. What was considered legal in one part of Bhutan was considered illegal in another. Then, in the 17th century, Zhabdrung Ngawang Namgyel, a Tibetan Lama and a military leader who wanted to unify Bhutan both politically as well as culturally (Lhamo, 2019) established the law of Bhutan by considering both spiritual and political system (dual system). The people started following the common law. Then, in the 20th century, specialized officials looked into the established law when the hereditary monarchy system came into the picture and made necessary changes to make the country adapt to the new monarchy system and to work in alliance.

Driglam Namzha can be categorized into three sub sections based on how it is followed. First is the "Lue ki Driglam" which focuses on the physical aspect of one's action. It includes preserving and promoting national dress, bowing to elders and respected ones in accordance with the title, wearing of Kabney and Rachu, and many other etiquettes that is displayed on the outside. The second one is "Nga gi Driglam" which mainly deals with the conduct related to speech. It focuses on promoting the national language Dzongkha.It also encourages people to use respectful terms with elders and high post officials and to avoid telling lies or rude words. The third one is "Sem ki Driglam" which has more to do with spiritual acts and one's thoughts. It focuses on loyalty, unity, trust and forgiving nature.

2. Background

As per the 12th five-year plan of Bhutan (Central Plan 2018-2023, 2019), Ministry of Home and Cultural Affairs have given the importance to promoting Bhutan's culture amongst the youths of Bhutan. The leading concern is regarding the manmade and natural disaster being a threat to many historical and traditional culture. The 2015 GNH Survey shows the drop in the cultural diversity and resilience index. Hence, the Ministry wants to focus

on Innovative ideas that will promote and preserve the intangible cultural aspects such as Driglam Namzha. With the help of technology, the age-old traditions can be preserved and promoted without having to fear the threat of natural or man-made disasters. Applications providing information on Driglam Namzha can be one of a kind to start the collaborative construction of tradition with technology.

3. Methodology

3.1. Quantitative Study

To get users' perspective of the set aim, a quantitative feasibility study was carried out. A set of Driglam Namzha related questionnaires were made and a survey was carried out by distributing one google form link through social media platforms. The target population was the Bhutanese people who can read and write so that they can fill out the google form. It was noted that 64.9% of the total population of Bhutan can read and write ("Demographics of Bhutan," 2021) which totals up to approximately 455,000 Bhutanese. Taking margin of error as 5%, the sample size that best suited this study was 380 Bhutanese participants.

3.1.1. Participants

A total of 559 Bhutanese participants responded to the survey. The participants were from different dzongkhags of Bhutan with varying age range. The background of the participants was also different consisting of students, civil workers, home workers and business men.

3.1.2. Result Analysis

The responses of the participants in respect to the questionnaires were all converted to a graphical display and analyzed. Since the questions were straight forward, there was no need for critical analysis from the researcher's side which ensures that data integrity is maintained and no mis-analysis are made.

3.2. Qualitative Study

A literature review of related works was carried out to understand the effectiveness and feasibility of using 2-D animations in teaching and promoting Driglam Namzha.

2-D animations and graphical illustrations can gain user interest and better understanding of a content. Using animation for educational purposes can motivate the learners and make learning more effective. Users can visualize subjects for better understanding, make learning faster, improve user engagement and motivate students to learn more (Pros and Cons of Animated Educational Videos, 2018). But there are drawbacks too. If not well demonstrated, users can perceive the wrong meaning and all the objectives will come down. Therefore, a precise and thoughtful instructional design is essential which requires constant effort, dedication and skills. These animations and graphical illustrations can be incorporated in a software for users to access and learn.

4. Findings from the Survey

4.1. Importance of Driglam Namzha

a. Affects Individual Personality

Driglam Namzha defines the code of conduct for every Bhutanese and hence, it plays a vital role in highlighting the unique culture of Bhutan that is appreciated by many. Bhutanese culture is not only responsible to define the root that holds the country as an Independent country by giving a unique identity but also has a critical impact on the wholesome development of the individual personality as agreed to by 95.6% of the participants from the survey.
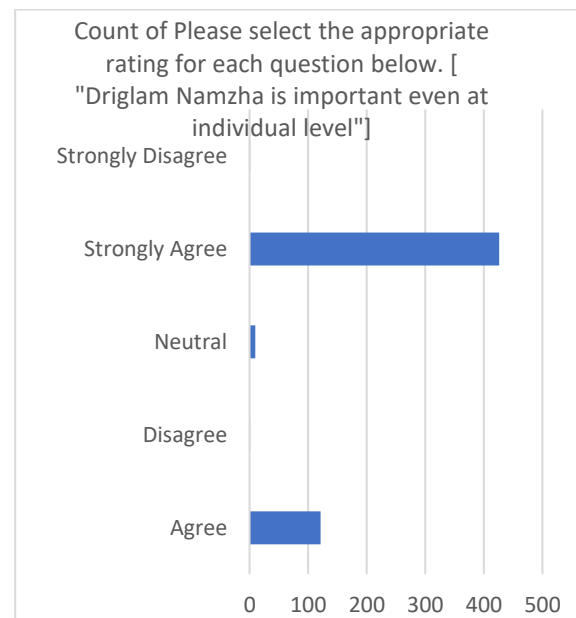

Figure 1. Driglam at Individual level

b. Affects the Society as a whole

Driglam Namzha is developed as a code of etiquettes to be followed by an individual. People have to coexist interdependently in a

society and hence, one's code of conduct can have impact on the wholesome working of the society too collectively. As per the survey carried out, the 75% of the participants have mentioned that Driglam Namzha can impact the working of a society as a whole.
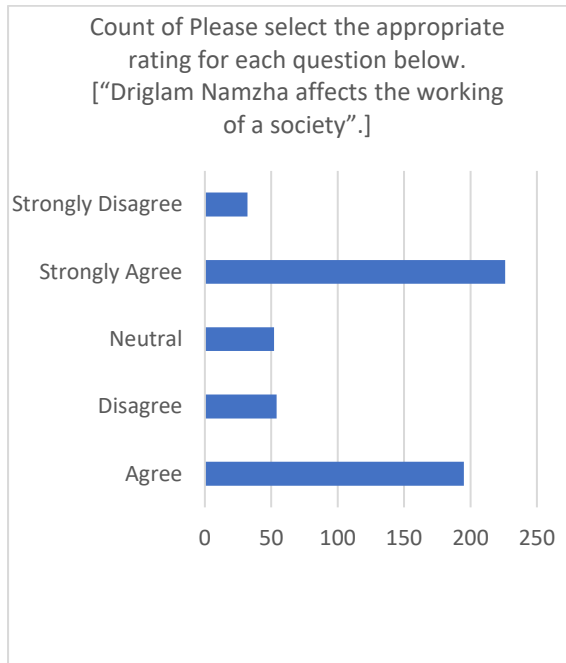
**Figure 2**. Driglam at social level

4.2. Best method or approach to teach Driglam Namzha

There was no pattern regarding the selection of preferrable tools for learning Driglam Namzha and the participant's age. Some participants aged 40 and above also selected mobile application as the best means of learning Driglam Namzha. One of the reasons for selecting this option is that recapitulating whatever that has been taught in the class is not easy. Whereas the younger generation aged 19-25 has also selected Driglam Namzha classes as the best method to teach Driglam Namzha despite being more exposed to mobile applications. The reason for selecting this option is mainly because details are very important in Driglam Namzha and a simple mobile application might not be able to demonstrate the details.
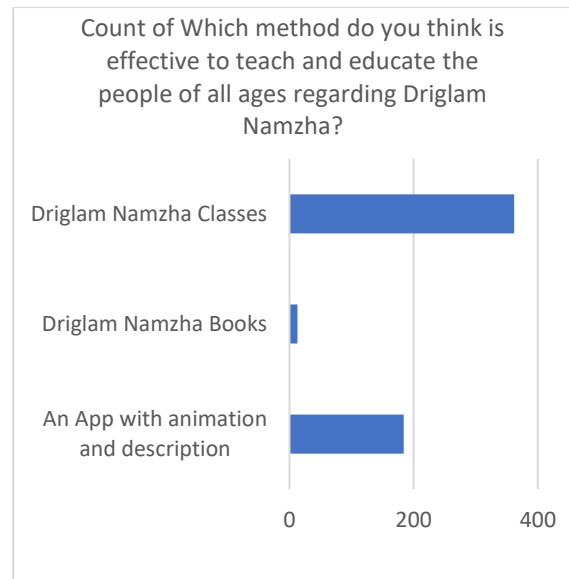
Figure 3. Effective method to teach Driglam

Participants have also left comments regarding the effective approach to learn Driglam Namzha where many have reflected how Driglam Namzha should be taught from a young age itself to incorporate the values as a habit.
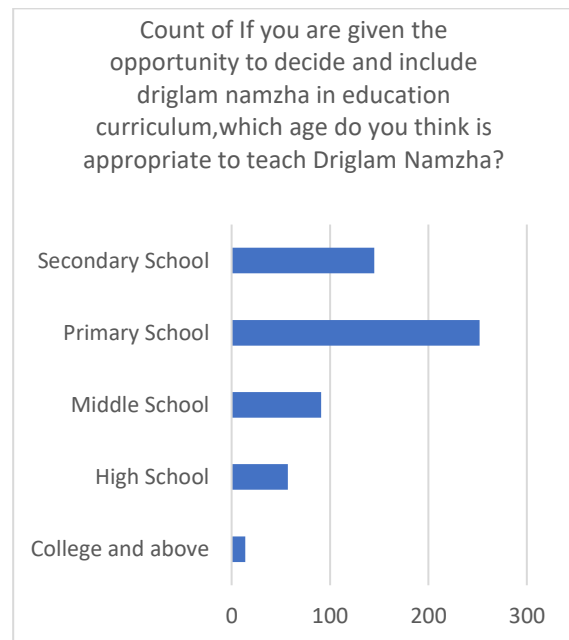
Figure 4. The best age to learn Driglam

Youths nowadays are fond of gadgets and merging the promotion of Driglam Namzha through technology can be a great method as mentioned by participant 'X'. X commented, *I would also urge to teach and upskill the values and practice of Driglam Namzha among Bhutanese youngster through gadgety application is the best as every Bhutanese are fond of using a gadget. More over small children*

will love watching animated movies and learn in broader ways. Hope to see a best application or Mobile app specific to teach Driglam Namzha.

4.3. Is Driglam Namzha being preserved?

Passed down from elder generation, Driglam Namzha is an important aspect for Bhutanese. With the evolution of time, passing down this code of etiquettes has been noted as a challenge and to ensure that it does not lose its essence, the ministry of Home and cultural affair has taken the responsibility to keep on promoting it. In the 12th five-year plan, MoHCA has reflected that they will find methods to promote Driglam Namzha amongst the youths. An interesting response has also been seen from the survey that was taken. The elder (40 and above) participants of the survey have mentioned that Bhutanese are seen following Driglam Namzha but the younger (19-25) participants have disagreed.
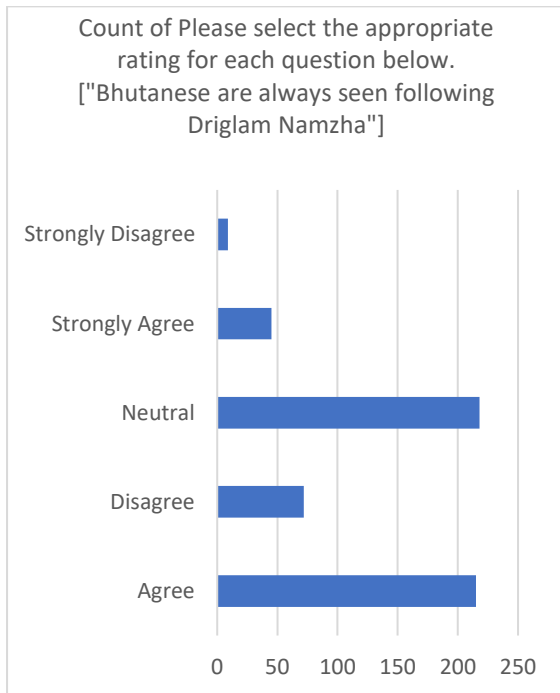
Figure 5. Bhutanese following Driglam

5. Animations

The animations are created using Adobe Animate. Firstly, a male and female model were created using Adobe Animate. The model's front, side and back views were illustrated. Then each action required for the animations were illustrated by modifying the models. The illustrations were then imported to adobe animate as a key frame and the length of the frames were adjusted as required

in sequence. A total of twenty-two animations were developed for physical Driglam Namzha.

6. Development of Application

The offline app was developed using cross platform mobile application development framework called Ionic. The app consists of two main options; "Lue ki Driglam" and "Nga gi Driglam" whereby the prior displays the physical code of conducts such as "Gho goenthang" (How to wear Gho), "Kira Keethang" (How to wear Kira), "Kabney Kaabthang (How to wear Kabney", "Rachu Kabthang" (How to waer Rachu) and "Cha wa cha zhur" (How to Bow) with animations, audios and texts. The later helps the user to search honorific Dzongkha words for equivalent English words.
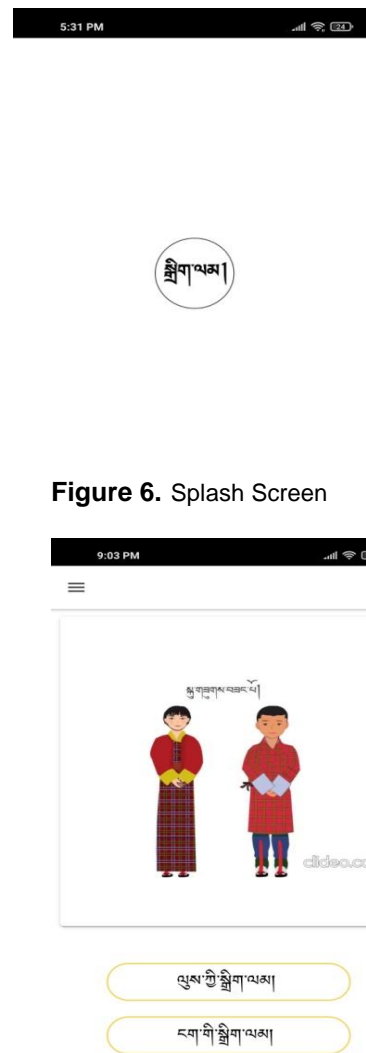
6.1. Overview of the application

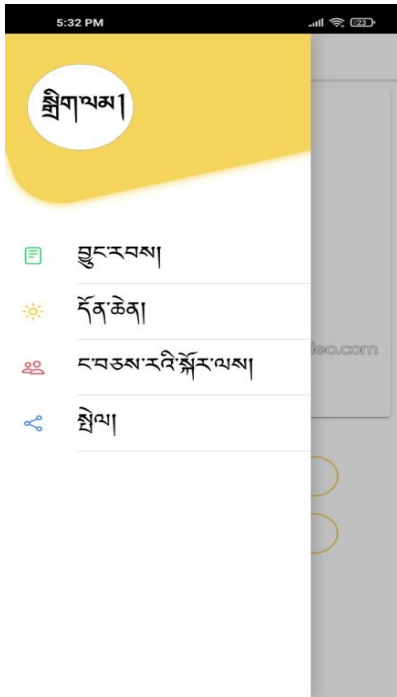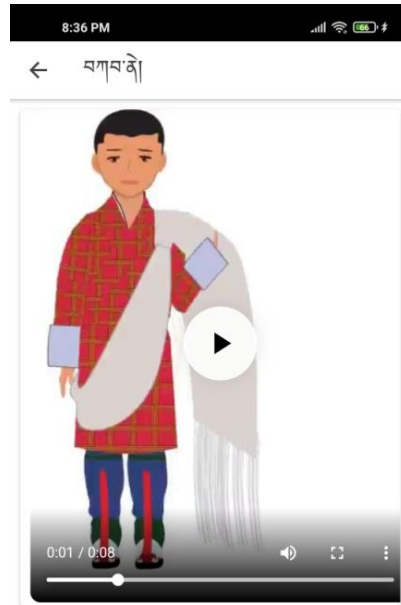**Figure 6.** Splash Screen

Figure 7. Home Page

Figure 8. Navigation Drawer

Figure 9. Male category

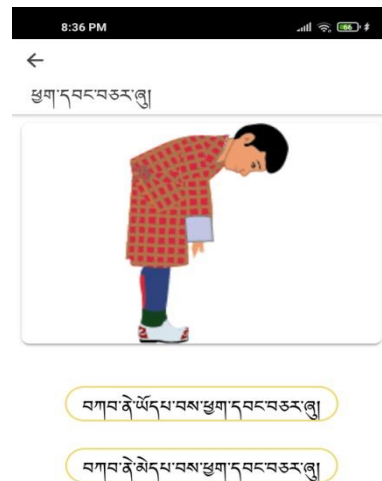**Figure 10.** How to wear Kabney

Figure 11. Bowing options

7. Conclusion

Driglam Namzha has impact on Individual characteristics as well as the harmony of the society as a whole. Ministry of Home and Culture Affairs is supporting any innovative ideas to promote and preserve Driglam Namzha as discussed in the country's 12th five-year plan. This study aimed to test the feasibility of integrating 2-D animations in an app to promote Driglam Namzha of Bhutan by considering the user responses from survey and by doing literature reviews on the effectiveness of 2-D animations for educational purpose. Driglam Namzha classes is preferred over any other methods by the participants but Driglam Namzha App with 2-D animations are also preferred by users as a supplement to Driglam Namzha classes. This will be an effective way to gain the interest of younger generations. It will also act as a recapitulating aid for the adults who have lost touch with Driglam Namzha classes.

8. Acknowledgement

9. Bibliography

[1] A.Byers, J. (1999, September). Interactive Learning Using System Quizzes on the Internet. *Educational media International, 36*. doi: 10.1080/0952398990360304

[2] Biddle, R., Noble, J., & Ferreira, J. (2007). *Agile Development Iterations and UI Design.* Research Gate.

[3] Constantine, Larry L; Lockwood, Lucy A.D.;. (2003). Usage Centered Software Engineering; an agile approach to Integrating users, user interfaces, and usability into software engineering practice. *International conference on Software engineering.* Research Gate.

[4] Ferreira, J. (2012). *Agile Development and UX Design: Towards Understanding Work Cultures to Support Integration.* Canada: Springer, Berlin, Heidelberg.

[5] Gunaydin, M. (2015, June). Use of mobile devices to support learning. Retrieved September 12, 2020, from https://ntnuopen.ntnu.no/ntnu-xmlui/bitstream/handle/11250/2353507/12365_FULLTEXT.pdf?sequence=1

[6] Hina Iqbal, Iqra Sana and Khushboo Nasir. (2016, June 11). Quiz Application Development using Android Platform. doi:10.13140/RG.2.1.1925.3368

[7] Julie Bauer Morrison, Barbara Tversky. (2000). *Animation: Does It Facilitate Learning?* AAAI.

[8] Lhamo, P. (2019). Driglam Namzha: Why the bhutanese do what they do. *The Bhutanese.*

[9] MacKay, J. (2019, October 2). *Software Development Process:.* Retrieved from Planio: https://plan.io/blog/software-development-process/

[10] *Pros and Cons of ANimated Educational Videos.* (2018, July 13). Retrieved from F Learning Studio: https://www.flearningstudio.com/pros-and-cons-of-animated-educational-videos/

[11] *Types of risks in software projects.* (2020, September 1). Retrieved from https://www.softwaretestinghelp.com/types-of-risks-in-software-projects/

[12] (2018). *Vol II Central Plans.* Thimphu: Gross National Happiness Comission.

[13] Yoezer, J. (n.d.). ཞེར་མཁོའི་ སྐྱིག་ལམ་རྣམ་གཞག. Thimphu: Ministry of Home and Cultural Affairs.