Streamlining the Workflow: Evaluation of InShot and FastSnap as a Prototype in Optimizing Video Editing Experience of College Students

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***Abstract*— We present an evaluative study of two video editing applications, InShot, and the prototype FastSnap, to optimize the video editing experience for college students. Through a comparative analysis of efficiency, user satisfaction, and key features, we sought to identify which application better meets the needs of novice video editors. A sample of twenty college students participated in this study and it used a between-subjects design to separate the two independent groups, in which qualitative and quantitative data involving overall effectiveness were assessed. Results from the Mann-Whitney test indicated that there are no statistically significant differences between the two video editing designs across usability metrics. Descriptive statistics showed that InShot consistently received high satisfaction scores, while FastSnap was commended for its simplicity and ease of use. These findings underscore the importance of user-friendliness in video editing software and suggest potential areas for further research.**

Keywords*— *Video editing, usability, user satisfaction, InShot, FastSnap, college students, prototype evaluation.

I. Introduction

The design and implementation of an application highly depends on the creation of a User Interface (UI). It acts as a bridge between the user's experience and internal operations. Applications that have a well-designed UI can make complex systems feel more intuitive, straightforward, and easy to use. The smartphone app InShot serves as an example of this. It is a photo and video editing mobile application with over 500 million downloads that is accessible on Android and iOS platforms. It has been recognized as one of the top photo and video apps back in 2021 [1]. This study introduces FastSnap, a prototype video editing mobile application designed using Figma. By comparing the two and gathering information from college students about their needs and preferences for video editing, FastSnap aims to demonstrate an intuitive design and reach design parity with InShot.

The purpose of this study is to evaluate the user-friendliness and overall effectiveness of InShot and FastSnap in optimizing the video editing workflow for college students. It also aims to compare the efficiency of completing common video editing tasks and determine the features most valued by the participants.

II. Background of the Problem

In the past, video editors were specialized professionals with access to expensive equipment and advanced technical knowledge, such as directors and videographers. Anyone may now create videos thanks to user-friendly software and personal PCs. The public can access it through open sources. However, this increase in accessibility also presented new difficulties. Popular editing programs like Adobe Premiere and DaVinci Resolve offer user interfaces (UIs) that may initially seem complicated or challenging to beginning users. The complexity of this process discourages people from creating movies, which lowers the quantity of content that is accessible [2][3].

In response to this challenge, mobile applications like CapCut and InShot emerged. Users can edit films while on-the-go using their easy-to-use and portable solution. The public, artists, editors, and casual users may be inspired to express themselves artistically using a more user-friendly approach to video editing software [4].

A. Problem Statement

The lack of intuitiveness, quality, and features to video editing applications is a significant problem that leads to a disparity in digital content quality among users, restricting their skills and abilities to produce professional-looking media content and compete effectively in online platforms.

While powerful video editing software exists, its high cost, technical requirements, and limitations often create a barrier for aspiring content creators. This disparity in access to quality editing tools leads to a digital content divide, where users with limited resources struggle to compete with professionals or well-equipped creators.

B. Significance of the Study

This study aims to compare the user satisfaction of college students with using InShot and FastSnap for video editing. The results can be used to determine which features students find useful and the areas where these designs need to be enhanced. In addition, knowing user preferences and pain points might provide developers ideas on how to improve the user experience as a whole. It may aid in the creation of more user-friendly and efficient video editing programs aimed at this market.

C. Limitations of the Study

The limitations of this study include the following:

- Sample size of 20-30 participants
- Self-reported data through questionnaires
- Figma prototype limitations
- Inability to fully replicate video editing scenarios

III. Design Decisions

To gain a deeper understanding of college students' video editing experiences, this study interviewed ten college students with prior video editing experience to create user personas, sketches, wireframes, and a design strategy for FastSnap.

A. Personas

Fig. 1. User Persona: Sikath Shine.

Sikath Shine ("sikat siya") is a user persona based on three interviewees in which they have good communication skills. The frequently used applications they use are Adobe Photoshop, Canva, CapCut, Filmora and Final Cut Pro X (Figure 1).

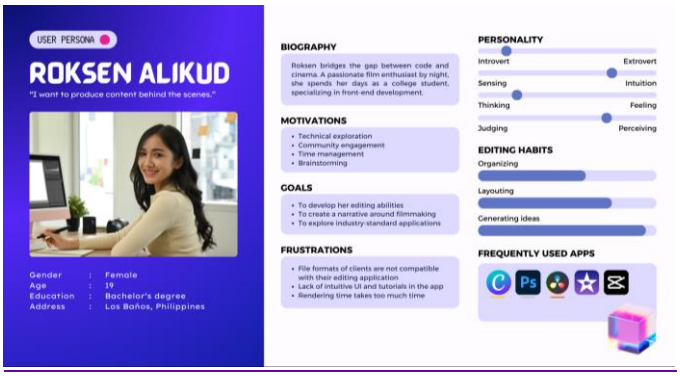

Fig. 2. User Persona: Roksen Alikud.

Roksen Alikud ("eksena sa likod") is a user persona based on four interviewees in which they are behind-the-scene actors or those who prefer brainstorming for the team. The frequently used applications they use are Canva, Adobe Photoshop, DaVinci Resolve, iMovie, and CapCut (Figure 2).

Fig. 3. User Persona: Ader Tista.

Ader Tista ("artista") (Figure 3) is a user persona based on three interviewees in which they create video content for their own consumption and enjoyment. The frequently used applications they use are Canva, Adobe Photoshop, Adobe Premiere, Filmora Go, and CapCut.

B. Sketches and Wireframes

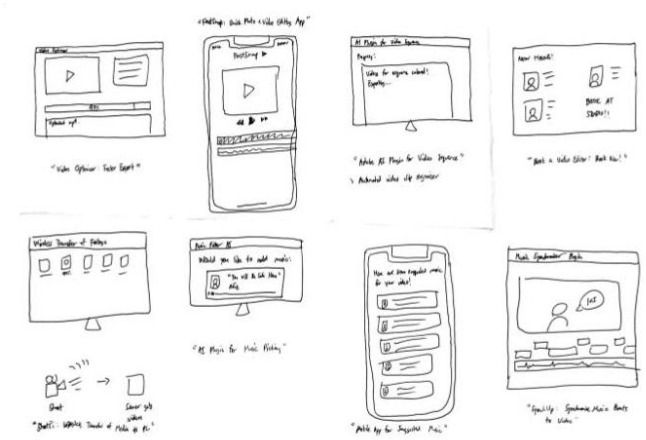

Fig. 4. Design Decisions from CMSC 173 – Exercise 2.

The figure shown above (Figure 4) are the design decisions that were made to address the problem statement. Six out of eight design decisions involved features for PC use. Two of them are mobile application designs.

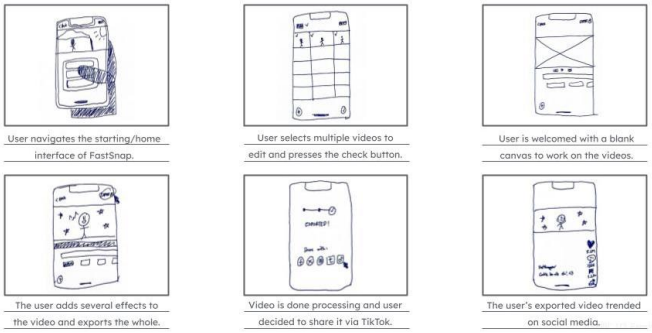

Fig. 5. Design Storyboard from CMSC 173 – Exercise 2.

For this study, we opted to explore the mobile video editing design because it reflects the reality of how most college students create and edit content, which are applications from their smartphones. This mode provides convenience as it is lightweight, intuitive, and on-the-go (Figure 5).

C. Design Strategy

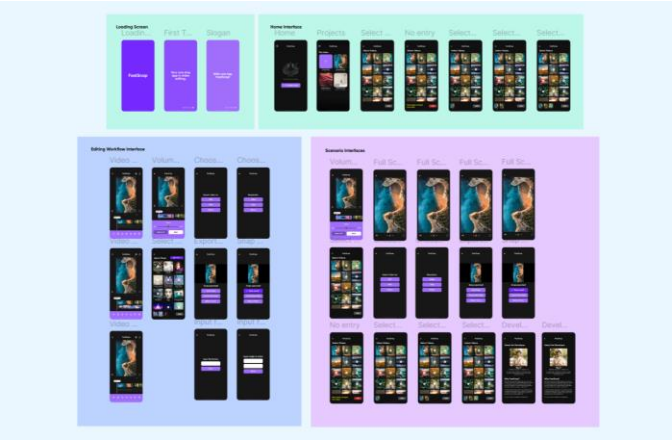

Fig. 6. Final Prototype Design of FastSnap.

FastSnap utilizes a clear and straightforward design strategy, by having a simple interface with minimalistic buttons and icons and a logical flow ("First Time Use Screen" to "Snap Projects") for users to follow upon trying the prototype (Figure 6).

IV. Methodology

Twenty college students (ages 18-23 years old) with video editing experience were invited through social media. A between-subjects design was used, with ten participants testing InShot and ten testing FastSnap. The Wizard of Oz technique was employed to guide participants through video editing tasks on FastSnap, while InShot is an available application in mobile stores and not within my control. User satisfaction was assessed through a post-test questionnaire measuring ease of use, intuitiveness, and overall satisfaction with a 5-point Likert scale and open-ended questions. Prior to conducting inferential statistical tests, the normality of rating distributions for both FastSnap and InShot was assessed using the Shapiro-Wilk test. Since the normality test revealed a p-value smaller than 0.05, a normal distribution is not assumed. Therefore, a non-parametric test was chosen for further analysis.

The Mann-Whitney test, a non-parametric test, was used to compare the ratings of college students between FastSnap and InShot, which are considered two independent groups. It compares the medians of these two independent samples to assess if there's a statistically significant difference in ratings between the two applications.

H_a: Users will report feeling significantly more familiar and comfortable using the FastSnap prototype compared to the InShot application.

V. Results and Discussion

A Shapiro-Wilk normality test was used to determine whether a parametric or non-parametric test is appropriate. Python modules "pandas" and "scipy" were used to get the normality. Three normality tests were done to test the following variables: learnability, efficiency, error tolerance, usability, functionality, and overall impression.

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Shapiro-Wilk Test Results:
Learnability: p-value = 0.0001 (likely non-normal)
Efficiency: p-value = 0.0001 (likely non-normal)
Error Tolerance: p-value = 0.0065 (likely non-normal)
Usability: p-value = 0.0000 (likely non-normal)
Functionality: p-value = 0.0001 (likely non-normal)
Overall Impression: p-value = 0.0016 (likely non-normal)
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Fig. 7. Normality Test Results for Both Designs.

As shown in Figure 7, the p-values for each variable are mostly non-normal. Since the normality test revealed a p-value smaller than 0.05, a normal distribution is not assumed. Therefore, a non-parametric test was chosen for further analysis.

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====== Mann-Whitney Test Results ======
Learnability: U = 59.0000, p-value = 0.4702
Efficiency: U = 65.0000, p-value = 0.2219
Error Tolerance: U = 40.0000, p-value = 0.4498
Usability: U = 71.0000, p-value = 0.0722
Functionality: U = 59.5000, p-value = 0.4505
Overall Impression: U = 57.5000, p-value = 0.5718
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Fig. 8. Mann-Whitney Test Results for Both Designs.

The Mann-Whitney test was used because two independent groups are being tested. In Figure 8, all results from the Mann-Whitney test have p-values greater than 0.05, indicating no statistically significant difference between the medians, which means that the decision is to fail to reject the null hypothesis [5].

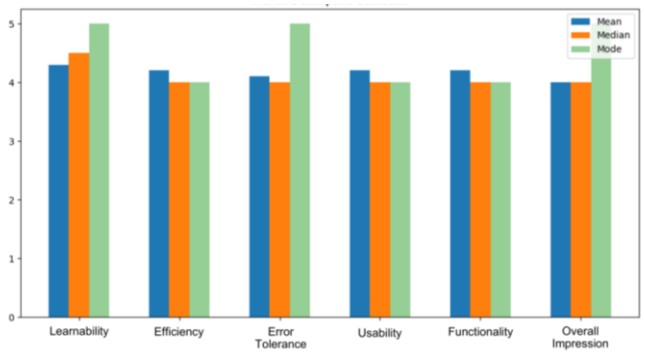

Fig. 9. Line Chart Graph for Descriptive Statistics of InShot.

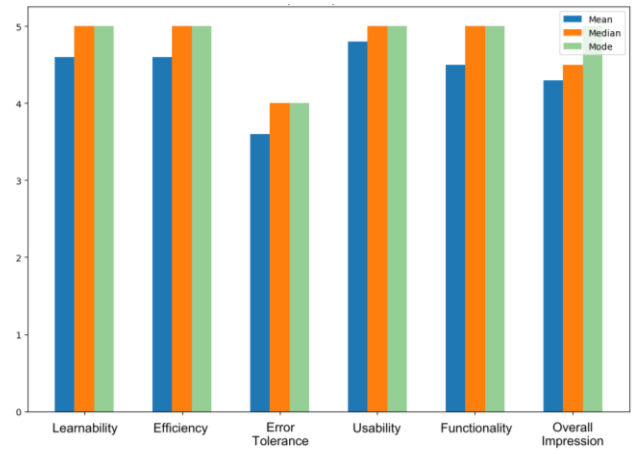

Fig. 10. Line Chart Graph for Descriptive Statistics of FastSnap.

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====== Descriptive Statistics ======
For InShot:
        Learnability: Mean = 4.30, Median = 4.50, Mode = 5
        Efficiency: Mean = 4.20, Median = 4.00, Mode = 4
        Error Tolerance: Mean = 4.10, Median = 4.00, Mode = 5
        Usability: Mean = 4.20, Median = 4.00, Mode = 4
        Functionality: Mean = 4.20, Median = 4.00, Mode = 4
        Overall Impression: Mean = 4.00, Median = 4.00, Mode = 5
For FastSnap:
        Learnability: Mean = 4.60, Median = 5.00, Mode = 5
        Efficiency: Mean = 4.60, Median = 5.00, Mode = 5
        Error Tolerance: Mean = 3.60, Median = 4.00, Mode = 4
        Usability: Mean = 4.80, Median = 5.00, Mode = 5
        Functionality: Mean = 4.50, Median = 5.00, Mode = 5
        Overall Impression: Mean = 4.30, Median = 4.50, Mode = 5
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Fig. 11. Mean, Median, and Mode of InShot and FastSnap.

Figures 9 and 10 were displayed using the "matplotlib" Python module and its available functions, "mannwhitneyu" and "mode". In terms of the user satisfaction metrics of college students (Figure 11), InShot's metrics were consistently high, with a mean ranging from 4.00 to 4.30, a median of 4.00 to 4.50, and modes of 4 and 5. In contrast, FastSnap showed a wider range of satisfaction, with a mean of 3.60 to 4.80, a median of 4.00 to 5.00, and similar modes of 4 and 5. Notably, all of FastSnap's satisfaction scores were higher than those of InShot's, with the exception of the error tolerance metric.

TABLE I. TABLE OF RESPONSES ON THE MOST LIKED FEATURE

InShot	***FastSnap***
The Intuitiveness of the UI.	Icons and interfaces are easy to understand. The design is very pleasing to look at.
Most of the things that you would expect from an editing application is mostly present. I would say that the interface satisfies the necessary things, such as making it easy for the user to navigate.	It's very easy to use and very intuitive.
Wide catalogue of free libraries and resources inside the app itself. Easy to use.	I liked the simplicity of the design; it's straight to the point. The minimalistic approach also makes it convenient for me to navigate.
I am impressed with its user-friendly interface and features.	I like the design.
User friendly, nice UI, smooth operation.	The transition in adding music and how everything was organized. The interface was simple to use.
I liked how easy it was to edit videos and photos with InShot. I could easily trim, cut, and combine videos, getting the results I wanted without any trouble.	The design is intuitive; there is no need for tutorials.
Its simplicity and similarity to other video editing software make it easier to learn at first glance for people who have used video editing apps like me.	Its efficiency in page navigation.
I like the 'text' section as it has options like doodles and stickers.	Ease of use and simple design.
I like how I can quickly edit my videos in this app; it doesn't ruin the quality when importing or downloading the video.	User-friendly interface.
Very easy to understand and use.	Quick to navigate, the choice of colors and elements shows clarity.

The Google Form post-test questionnaire included an open-ended question where users could specify the feature they liked most (Table 1). For FastSnap, 60% of the group liked its simplicity, minimalism, and ease of navigation. The remaining 40% emphasized the design being easy to use and understand. For the InShot group, the intuitiveness and user-friendliness of the design were the dominant preferences (80%). However, a minority (20%) of the users favored the many features present.

VI. CONCLUSION

This study highlights the importance of user-friendliness in video editing applications. Both designs of InShot and FastSnap received positive user satisfaction ratings. However, the statistical analysis (Mann-Whitney test) revealed that there are no significant differences between them. The resulting hypothesis is that there is no significant difference in user familiarity and comfort between the FastSnap prototype and the InShot application. This could be attributed to the small sample size used in the study. While InShot garnered consistently high user satisfaction scores due to its comprehensive feature set, FastSnap achieved comparable satisfaction ratings despite being a limited-feature prototype with occasional navigation errors. Additionally, prototype testers praised FastSnap's simplicity and ease of use; this suggests potential for FastSnap's design approach.In conclusion, the contrasting strengths of InShot and FastSnap highlight the need for further exploration in creating intuitive designs for video editing applications. Future research with larger sample sizes could provide more definitive results regarding the effectiveness of these design approaches. To access all materials used in this study, you may access this link.

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REFERENCES

[1] App Annie, "InShot Has Surpassed 500 Million Downloads — Powering the World with Premium Video Editing," 2014. https://www.data.ai/en/insights/market-data/inshot-surpassed-500-million-downloads/

[2] A. Mazur, "The Evolution of Video Editing: From Analog to Digital Era," 2024. https://www.linkedin.com/pulse/evolution-video-editing-from-analog-digital-era-adam-mazur-l40be/

[3] S. Chatterjee, "6 Common Video Editing Issues and Ways to Overcome Them," Stellar Data Recovery Blog, Nov. 05, 2018. https://www.stellarinfo.com/blog/common-video-editing-issues-and-ways-to-overcome/

[4] S. Nguyen, "The Rise of Mobile Video Editing: Editing on the Go," Avada. March 4, 2024. https://avada.io/articles/the-rise-of-mobile-video-editing-editing-on-the-go/

[5] Minitab, "Interpret the key results for Mann-Whitney Test," n.d. https://support.minitab.com/en-us/minitab/help-and-how-to/statistics/nonparametrics/how-to/mann-whitney-test/interpret-the-results/key-result