UNIVERSITAS NAHDLATUL ULAMA SURABAYA
LEMBAGA PENELITIAN DAN PENGABDIAN KEPADA MASYARAKAT
Kampus A Wonokromo : Jl. SMEA No.57 Tlp. 031-8291920, 8284508 Fax. 031-8298582 – Surabaya 60243
Kampus B RSIJemursari : Jl. Jemursari NO.51-57 Tlp. 031-8479070 Fax. 031-8433670 – Surabaya 60237
Website : unusa.ac.id Email: info@unusa.ac.id

SURAT KETERANGAN

Nomor: 209-UNUSA-LPPM/Adm-I/II/2024

Lembaga Penelitian dan Pengabdin Kepada Masyarakat (LPPM) Universitas Nahdlatul Ulama Surabaya menerangkan telah selesai melakukan pemeriksaan duplikasi dengan membandingkan artikel-artikel lain menggunakan perangkat lunak **Turnitin** pada tanggal 05 Februari 2024

Judul	: Smartphone Addiction Screening Application Development Based on Android: A Preeliminary Study
Penulis	: Nety Mawarda Hatmanti, Yurike Septianingrum, Andikawati Fitriasari, Erika Martining Wardani, Eppy Setiyowati
No. Pemeriksaan	: 2024.02.06.144

Dengan Hasil sebagai Berikut:

Tingkat Kesamaan diseluruh artikel (*Similarity Index*) yaitu 13%

Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya.

Surabaya, 6 Februari 2024

Ketua LPPM

UNUSA LPPM

Achmad Syafiuddin, Ph.D
NPP: 20071300

2024 Jan_Smartphone Addiction Screening Application Development Based on Android A Preeliminary Study

by Erika Wardani

Submission date: 01-Feb-2024 06:49PM (UTC+0700)
Submission ID: 2283660612
File name: pplication_Development_Based_on_Android_A_Preeliminary_Study.pdf (1.49M)
Word count: 3042
Character count: 16112

Smartphone Addiction Screening Application Development Based on Android: A Preeliminary Study

Nety Mawarda Hatmanti[1*], *Yurike* Septianingrum[1], *Andikawati* Fitriasari[1], *Erika* Martining Wardani[1], *Eppy* Setiyawati[1]

[1]Nursing Departement, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia

Abstract. The growing and increasing pattern of smartphone use in life from just a communication tool to an entertainment tool makes someone use a smartphone excessively. Excessive use of smartphones if not addressed immediately can have an impact on various disorders ranging from physical, psychological and social disorders. The purpose of this study was to produce an Android-based smartphone addiction screening application and to describe the quality of an Android-based smartphone addiction screening application. This research belongs to the type of Research & Development (R&D). The model used is the Dick & Carey model where the implementation of the developer includes data collection, planning and product development stages. At the data collection stage, 3 (three) were obtained, namely data on family members, smartphone use and complaints experienced and the smartphone addiction scale short version (SAS-SV) questionnaire. In the second stage, namely planning, researchers began to incorporate into an android-based application and develop it to be able to draw conclusions from filling out the questionnaire. Conclusions from filling in include demographic data, physical, psychological and social complaints and dependency categories. It is hoped that this application can be tested on the community, especially families, to measure the validity and reliability and then use it as an online measuring tool.

1 Introduction

Smartphone is an important tool in daily life [1], because the smartphone provides several applications including information, communication, entertainment and education [2]. Another function of smartphones today can be as a tool for data collection [3], preventing psychiatric disorders, chronic diseases and to improve the quality of life in the elderly [4]. Smartphones are believed and proven to have provided many benefits and help in everyday life [5], but if the use of smartphones is done excessively [6], it can lead to smartphone addiction [7].

* Corresponding author: nety.mawarda@unusa.ac.id

It is not clear which instruments are valid for measuring the potential causes created by smartphone use. Several self-report questionnaires have been developed to measure the addiction to smartphone-induced scales in recent years. In general, smartphone addiction consists of by four main aspects, namely compulsive behavior, tolerance, withdrawal and functional bad behavior, which are synonymous with internet addiction features [8,9].

Previous research that has discussed the instrument used to determine smartphone addiction. Research conducted by [10] shows that the SAS-SV instrument is valid for use in the adolescent population in Brazil and is recommended as a screening method for psychological intervention programs for adolescents who are excessive in smartphone use. In this study, the data collection system uses virtual under the SurveyMonkey platform. Research [8] shows that the Indonesian version of the SAS-SV has good validity and reliability and can be used in Indonesia for adolescents aged 12-15 years. From several studies, there is no smartphone addiction measuring instrument in the form of an Android-based application.

Previous research that has discussed the instrument used to determine smartphone addiction. Research conducted by [10] shows that the SAS-SV instrument is valid for use in the adolescent population in Brazil and is recommended as a screening method for psychological intervention programs for adolescents who are excessive in smartphone use. In this study, the data collection system uses virtual under the SurveyMonkey platform. Research [8] shows that the Indonesian version of the SAS-SV has good validity and reliability and can be used in Indonesia for adolescents aged 12-15 years. From several studies, there is no smartphone addiction measuring instrument in the form of an Android-based application.

From the explanation above, considering the bad effect of excessive smartphone use [11], the researchers created an instrument, where users can analyze or identify smartphone addiction themselves to immediately prevent excessive addiction. From previous studies, the instrument used to detect has not been in the form of an application, so the researchers made an android application in this study to facilitate the identification process in determining dependence on smartphones.

2 Methods

This investigation employs research and development methodologies (R&D). The research procedure adheres to the developmental stages outlined by [12] encompassing three key phases: data collection, planning, product development, and validation.

2.1 Data collection procedures

Data collection stage, at this stage conducting observations to see the material needs/theories needed to make a measuring instrument about smartphone addiction [13]. The measuring instrument the researcher is looking for in theory is the Indonesian version of the SAS-SV used in the study [8]. The planning stage, this stage is designing a prototype or application content framework that will be created and adapted to the analysis of family members' needs.

The product development stage, this stage begins with the collection of materials needed to complete the application, management and finally production. The material collected is in three parts including: data on family members, smartphone use and complaints experienced and the smartphone addiction scale short version (SAS-SV) questionnaire.

The contents of the application are both in word form and have been entered in the application and are validated by material experts and media experts to determine eligibility for users. Material experts assess the feasibility of material aspects, content statement aspects, linguistic aspects and implementation aspects. Meanwhile, media experts assess the

feasibility of software engineering aspects and visual communication applications on Android-based smartphones. Inputs and assessments from media experts and material experts are used as improvements by researchers in perfecting the content and form of the application.

Validation stage, at this stage the application that has been made is tested on a small scale, namely to 10 teenagers to download the application and fill out a questionnaire with the application.

2.2 Data analysis

The types of data used in this research are qualitative and quantitative. Qualitative data obtained from criticism and suggestions from material experts and media experts. Quantitative data were obtained from scores given by material experts and media experts. The instrument assessment criteria in application development used by material experts and media experts are assessed based on scores. Score 1: TS (disagree), score 2: KS (disagree), score 3: S (agree) and score 4: SS (strongly agree). The data collection technique used is quantitative descriptive data analysis, used to process data from the validation results of material experts and media experts in the form of suggestions and criticisms for improvements that are appropriate to the validation instrument questionnaire and qualitative descriptive statistical analysis used to analyze the data obtained in the form of analysis. percentage. The eligibility criteria for the smartphone addiction screening application include: (1) 21% - 40.9% = very poor, not feasible / invalid; (2) 41% - 60.9% = sufficient, not feasible because it needs major revision, (3) 61% - 80.9% = good / suitable for use with good predicate, (4) 81% - 100% = very good, very suitable for use without revision.

3 Result and discussion

This study resulted in smartphone addiction screening which has been validated by material experts and media experts. Based on the data from the validation results by material experts in family nursing and media experts, the presentation of each validation aspect is calculated. The percentage for each aspect of the material expert validation is matched with the product feasibility percentage table, which is in Table 1

Table 1. The Validation results by material experts in family nursing.

No.	Aspect of Validation	Number of Ratings	Maximum Quantity	%	Eligibility Criteria
(1)	(2)	(3)	(4)	(5)	(6)
Material Aspect					
1	The formulation of the purpose of filling out the questionnaire is clear	3	4	75	Good / proper to use with good predicate
2	The purpose of filling out the questionnaire is relevant to the content standard	3	4	75	Good / proper to use with good predicate
3	The questionnaire presented is relevant to the purpose of filling out the questionnaire	3	4	75	Good / proper to use with good predicate
4	The questionnaire presented is up to date	4	4	100	Very good, very feasible to use without revision

5	The logical flow of filling out the questionnaire presented is clear	4	4	100	Very good, very feasible to use without revision
6	Questionnaire points are presented systematically	4	4	100	Very good, very feasible to use without revision
7	Fill out the complete in-app questionnaire	3	4	75	Good / proper to use with good predicate
8	An example of how to fill out a questionnaire in the application is clear	3	4	75	Good / proper to use with good predicate
Aspect Statement					
9	Statements/questions are clearly formulated	4	4	100	Very good, very feasible to use without revision
10	Questions/statements covered in the full app	4	4	100	Very good, very feasible to use without revision
11	Questions / statements are true in theory and concept	4	4	100	Very good, very feasible to use without revision
12	Answer Key according to the question / statement	4	4	100	Very good, very feasible to use without revision
13	There is feedback on the evaluation results	3	4	75	Good / proper to use with good predicate
14	Evaluation is consistent with the purpose of filling out the questionnaire	3	4	75	Good / proper to use with good predicate
Language Aspect					
15	The language used in the communicative questionnaire	4	4	100	Very good, very feasible to use without revision
16	The language used to convey questions/statements is clear and understandable	4	4	100	Very good, very feasible to use without revision
17	The terms and statements used are appropriate and in accordance with the nursing field	4	4	100	Very good, very feasible to use without revision
Implementation Aspect					
18	Statements and questions in the questionnaire can motivate individuals to fill out	4	4	100	Very good, very feasible to use without revision
19	The statements/questions presented in the questionnaire attract the attention of individuals	3	4	75	Good / proper to use with good predicate
20	Individuals are more active in carrying out smartphone addiction detection activities	4	4	100	Very good, very feasible to use without revision

Table 1. The Validation results by media experts in family nursing.

No.	Aspect of Validation	Number of Ratings	Maximum Quantity	%	Eligibility Criteria
(1)	(2)	(3)	(4)	(5)	(6)
Software Engineering Aspect					
1	The application file size is not large	2	4	50	Enough, not worth it because it needs major revision
2	The application installation process is done easily	2	4	50	Enough, not worth it because it needs major revision
3	This application has clear application instructions	3	4	75	Good / proper to use with good predicate
4	The account registration process is clear and easy to do	3	4	75	Good / proper to use with good predicate
5	The application does not run slowly	4	4	100	Very good, very feasible to use without revision.
6	The application does not cause the computer to hang (stop)	4	4	100	Very good, very feasible to use without revision.
7	The application does not cause the smartphone to hang (stop)	4	4	100	Very good, very feasible to use without revision.
8	The application does not hang (stop) during operation	4	4	100	Very good, very feasible to use without revision.
9	The operation of this application is simple	3	4	75	Good / proper to use with good predicate
10	This application runs on various types of android smartphones	3	4	75	Good / proper to use with good predicate
11	This app has clear problem help	2	4	50	Enough, not worth it because it needs major revision
12	This application has a clear overview of the program flow	3	4	75	Good / proper to use with good predicate
13	This application provides an icon that makes it easy for users to operate	2	4	50	Enough, not worth it because it needs major revision
Aspects of Visual Communication Applications					
14	*Users can interact with the application*	3	4	75	Good / proper to use with good predicate
15	Creative in expressing ideas and ideas	2	4	50	Enough, not worth it because

					it needs major revision
16	Right in choosing the logo that was made	2	4	50	Enough, not worth it because it needs major revision
17	The display used in the application is interesting	2	4	50	Enough, not worth it because it needs major revision
18	The color selection in the application is correct	2	4	50	Enough, not worth it because it needs major revision
19	Writing can be read well	4	4	100	Very good, very feasible to use without revision.
20	Notification appears in view	3	4	75	Good / proper to use with good predicate

In table 2, almost half of the validation aspects of media experts are in the sufficient category, not feasible because they need major revisions both for the initial appearance and for the display on filling. Suggestions from media experts include the need for attractive icons and examples at the beginning of the application how to fill in, the colors are made unobtrusive so as not to damage the sight and the writing is made larger so that it can be read by the public. Improvements were made in the material and media sections based on suggestions and input from experts so that improvements were obtained for the quantity and quality of the smartphone addiction screening application.

The product development/study application stage consists of aspects of the feasibility of the material and media. The final media in this study is an android-based application with smartphone addiction screening material. This application is an assessment media that can be used as a means to detect early on individuals in the family about smartphone addiction. This application can be used by anyone who has an Android-based smartphone. The operation is relatively easy because there are already instructions for filling and examples in the application and the operational standards have been adjusted for the Android application in general.

The main menu page has 3 bottom navigation buttons, namely home, call us and screening. The main menu or home consists of 8 main menus, including: (1) Application explanation, (2) Application filling example, (3) Demographic data of family members in 1 KK, (4) Individual data that will be screened, (5) Physical complaints, (6) Psychological complaints, (7) Psychosocial complaints, (8) SAS-SV questionnaire (9) Conclusion of results. In the call us menu, individuals can send messages in writing to health workers to get education / health education. On the last menu, there is a screening menu, namely filling out the SAS-SV questionnaire along with conclusions about the level of smartphone addiction and suggestions for individuals whether to educate or to carry out further examinations to the nearest health service.

In accordance with research conducted by [1] it has been posited that smartphone addiction is intricately linked to the daily frequency of usage and its corresponding trends. Excessive smartphone use is quantified through both the duration and frequency of daily usage. Additionally, an exploration of the association between tolerance symptoms and the trajectory of median usage epoch durations is undertaken. Notably, the self-reported usage

time obtained through psychiatric assistance is significantly lower than the total smartphone usage time recorded via the designated application. Moreover, a positive correlation is observed between the extent of underestimation in self-reporting and the actual duration of smartphone use.

4 Conclusion

This research and development resulted in a smartphone addiction screening application that has been validated by material experts and media experts. So that further research hopes this application can be tested on individuals in the family in a community setting.

5 Acknowledgment

We would like to thanks to the support of the LPPM Nahdlatul Ulama University Surabaya who has funded this research and to all parties who cannot be mentioned one by one.

References

1. I. Kartika, Yuberti, Astuti, and Sodikin, AIP Conf. Proc. **2595**, (2023)
2. Y. H. Lin, Y. C. Lin, Y. H. Lee, P. H. Lin, S. H. Lin, L. R. Chang, H. W. Tseng, L. Y. Yen, C. C. H. Yang, and T. B. J. Kuo, J. Psychiatr. Res. **65**, 139 (2015)
3. A. M. Muflikha, A. Saregar, E. Pratiwi, Y. Yuberti, Syafrimen, and A. Anugrah, AIP Conf. Proc. **020003**, (2023)
4. R. Sumiyarini and A. Yuliyani, Smart Soc. Empower. J. **2**, 57 (2022)
5. S. Latifah, H. Komikesari, N. Hidayah, Y. Suryani, and P. Wijayanti, AIP Conf. Proc. **2595**, (2023)
6. U. Hasanah, U. R. Hijrianti, and I. Iswinarti, Proyeksi **15**, 182 (2020)
7. J. M. Khoury, A. A. C. De Freitas, M. A. V. Roque, M. R. Albuquerque, M. D. C. Das Neves, and F. D. Garcia, PLoS One **12**, 1 (2017)
8. C. Arthy, E. Effendy, M. M. Amin, B. Loebis, V. Camellia, and M. S. Husada, Open Access Maced. J. Med. Sci. **7**, 3235 (2019)
9. M. Muarriful Aziz, Y. Bismo Utomo, and D. Efytra Yuliana, J. Zetroem **4**, 1 (2022)
10. A. L. M. Andrade, A. Scatena, G. D. G. Martins, B. de O. Pinheiro, A. Becker da Silva, C. C. Enes, W. A. de Oliveira, and D. J. Kim, Addict. Behav. **110**, 106540 (2020)
11. N. H. Rachmawati, J. War. Desa **4**, 79 (2022)
12. W. Dick, L. Carey, and J. O'Carey, *The Systematic Design of Instruction 7th Edition* (Pearson Education Ltd, London, 2009)
13. K. M. Zakariah, M. A., Afriani, V., & Zakariah, *Metodelogi Penelitian Kualitatif, Kuantitatif, Action Research, Research and Development (RnD)* (Yayasan Pondok Pesantren Al Mawaddah Warrahmah Kolaka, 2020)

2024 Jan_Smartphone Addiction Screening Application Development Based on Android A Preeliminary Study

ORIGINALITY REPORT

13%	10%	9%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Athena Aktipis, Roger Whitaker, Jessica D. Ayers. "Do Smartphones Create a Coordination Problem for Face-to-Face Interaction? Leveraging Game Theory to Understand and Solve the Smartphone Dilemma", BioEssays, 2020 Publication	1%
2	www.bio-conferences.org Internet Source	1%
3	ejournal.umm.ac.id Internet Source	1%
4	Yi-Ming Zhang, Yue-Ming Ding, Hai-Tao Huang, Qian-Wen Peng, Xiao Wan, Guang Li Lu, Chao-Ran Chen. "Relationship between Insecure Attachment and Mobile Phone Addiction: A Meta-Analysis", Addictive Behaviors, 2022 Publication	1%
5	garuda.kemdikbud.go.id Internet Source	1%
6	www.thefreelibrary.com Internet Source	1%
7	repository.ar-raniry.ac.id Internet Source	1%
8	Submitted to Udayana University Student Paper	1%

9	V N Yulian. "Developing Teaching Materials Using Comic Media to Enhance Students' Mathematical Communication", IOP Conference Series: Materials Science and Engineering, 2018 Publication	1 %
10	hdl.handle.net Internet Source	1 %
11	himjournals.com Internet Source	1 %
12	Submitted to Olmsted Falls High School Student Paper	1 %
13	www.atlantis-press.com Internet Source	1 %
14	Denna Delawanti Chrisyarani, Prihatin Sulistyowati. "Design and validation of thematic e-modules: optimization of problem solving-based learning", JURNAL PENDIDIKAN DASAR NUSANTARA, 2022 Publication	<1 %
15	Rezka Arina Rahma, Sucipto Sucipto, Yessi Affriyenni, Monica Widyaswari. "Cybergogy as a digital media to facilitate the learning style of millennial college students", World Journal on Educational Technology: Current Issues, 2021 Publication	<1 %
16	Submitted to Universitas Nahdlatul Ulama Surabaya Student Paper	<1 %
17	ejournal.unesa.ac.id Internet Source	<1 %
18	www.researchsquare.com Internet Source	<1 %

19	A Jihad, W Susilawati, N Sobarningsih. "Improving mathematical understanding ability student through study of mobile learning mathematics base on the Android", IOP Conference Series: Materials Science and Engineering, 2018 Publication	<1%
20	A Nurafifah, A S Budi, B Z Siahaan. "Developing Wave Encyclopaedia based on Scientific Approach", Journal of Physics: Conference Series, 2017 Publication	<1%
21	ejobios.org Internet Source	<1%
22	Riska Rohmawati, Lono Wijayanti, Rahayu Anggraini, Ratna Yunita Sari, Imamatul Faizah, Dany Irawan. "DIABETES MELLITUS LIFESTYLE MANAGEMENT AS AN EFFORTS TO IMPROVE QUALITY OF LIFE FOR DIABETES MELLITUS PATIENTS", Community Service Journal of Indonesia, 2022 Publication	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		