



PROJECT REPORT
FLATLIST & SCROLLVIEW ANALYSIS ON THE
BALI MARKET E-RETRIBUTION APPLICATION

COSMAS ADRIAN RAHARDJA
17.K1.0020

Faculty of Computer Science
Soegijapranata Catholic University
2021

HALAMAN PENGESAHAN



Judul Tugas Akhir: : FlatList & ScrollView Analysis On The Bali Market E-Retribution
Application

Diajukan oleh : Cosmas Adrian Rahardja

NIM : 17.K1.0020

Tanggal disetujui : 15 Juli 2021

Telah setuju oleh

Pembimbing : Rosita Herawati S.T., M.I.T.

Penguji 1 : R. Setiawan Aji Nugroho S.T., MCompIT., Ph.D

Penguji 2 : Hironimus Leong S.Kom., M.Kom.

Penguji 3 : Rosita Herawati S.T., M.I.T.

Penguji 4 : Yulianto Tejo Putranto S.T., M.T.

Penguji 5 : Yonathan Purbo Santosa S.Kom., M.Sc

Penguji 6 : Y.b. Dwi Setianto

Ketua Program Studi : Rosita Herawati S.T., M.I.T.

Dekan : R. Setiawan Aji Nugroho S.T., MCompIT., Ph.D

Halaman ini merupakan halaman yang sah dan dapat diverifikasi melalui alamat di bawah ini.

sintak.unika.ac.id/skripsi/verifikasi/?id=17.K1.0020

STATEMENT PAGE OF SCIENTIFIC WORK PUBLICATION FOR ACADEMIC INTEREST

I, the undersigned:

Name : Cosmas Adrian Rahardja

Department : Informatics Engineering

Fakultas : Computer Science

Jenis Karya : Thesis

Menyetujui untuk memberikan kepada Universitas Katolik Soegijapranata Semarang Hak Bebas Royalti Noneksklusif atas karya ilmiah yang berjudul “FlatList & ScrollView Analysis On The Bali Market E-Retribution Application” beserta perangkat yang ada (jika diperlukan). Dengan Hak Bebas Royalti Noneksklusif ini Universitas Katolik Soegijapranata berhak menyimpan, mengalihkan media/formatkan, mengelola dalam bentuk pangkalan data (database), merawat, dan mempublikasikan tugas akhir ini selama tetap mencantumkan nama saya sebagai penulis / pencipta dan sebagai pemilik Hak Cipta. Demikian pernyataan ini saya buat dengan sebenarnya.

Semarang, July 15th 2021

Yang Menyatakan



Cosmas Adrian Rahardja

DECLARATION OF AUTHORSHIP

I, the undersigned:

Name : COSMAS ADRIAN RAHARDJA

ID : 17.K1.0020

declare that this work, titled " FlatList & ScrollView Analysis On The Bali Market E-Retribution Application", and the work presented in itis my own. I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at Soegijapranata Catholic University
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.
3. Where I have consulted the published work of others, this is always clearly attributed.
4. Where I have quoted from the work of others, the source is always given.
5. Except for such quotations, this work is entirely my own work.
6. I have acknowledged all main sources of help.
7. Where the work is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself.

Semarang, July 15 2021



COSMAS ADRIAN RAHARDJA
17.K1.0020

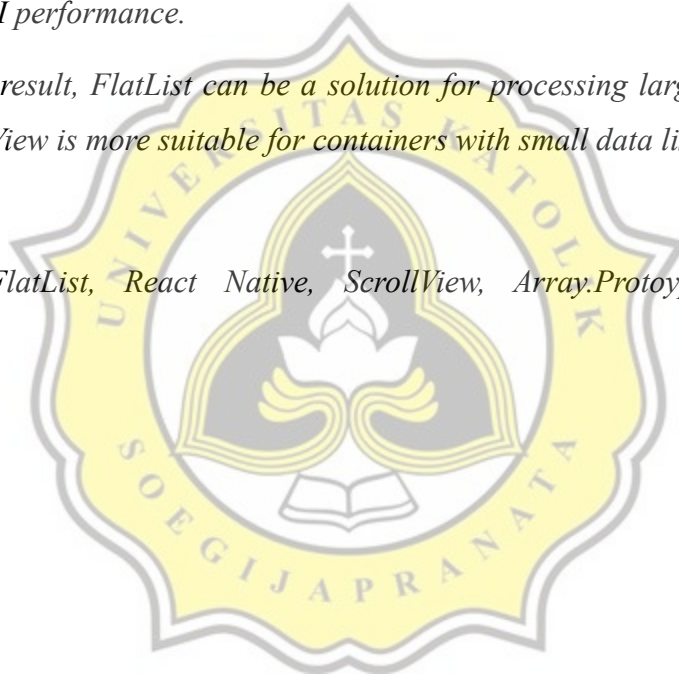
ABSTRACT

In React Native, methods are needed to process data both on a small and large scale. However, if processing large amounts of data affects the performance of a device which has a bad impact on the user experience when using the application.

This research is discussed comparing suitable & best methods to process data in React Native. Things that will be tested include load time, GPU usage, network processes, UI performance.

As a result, FlatList can be a solution for processing large amounts of data, while ScrollView is more suitable for containers with small data lists.

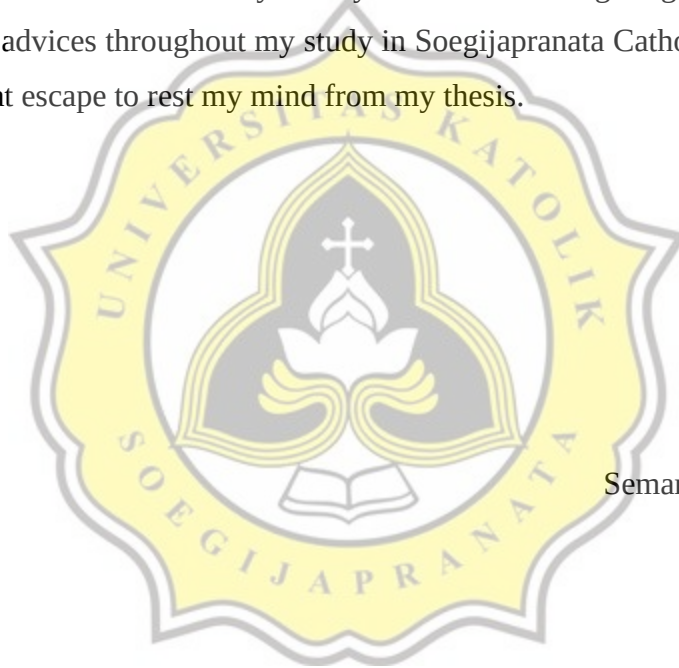
Keyword: FlatList, React Native, ScrollView, Array.Protoype.Map(), Lodash, Javascript



ACKNOWLEDGMENT

I have received a myriad of support, advice, and assistance throughout this document writing. I would like to thank my supervisors Miss Rosita Herawati for formulating this topic. I would also like to thank my friend Samuel Budiono for guiding with advice to finish this document.

I would like to thank my family and friends for giving me ceaseless love, support, and advices throughout my study in Soegijapranata Catholic University. You gave me great escape to rest my mind from my thesis.



Semarang, July 15th, 2021

A handwritten signature in black ink, appearing to read "Cosmas Adrian Rahardja".

Cosmas Adrian Rahardja

TABLE OF CONTENTS

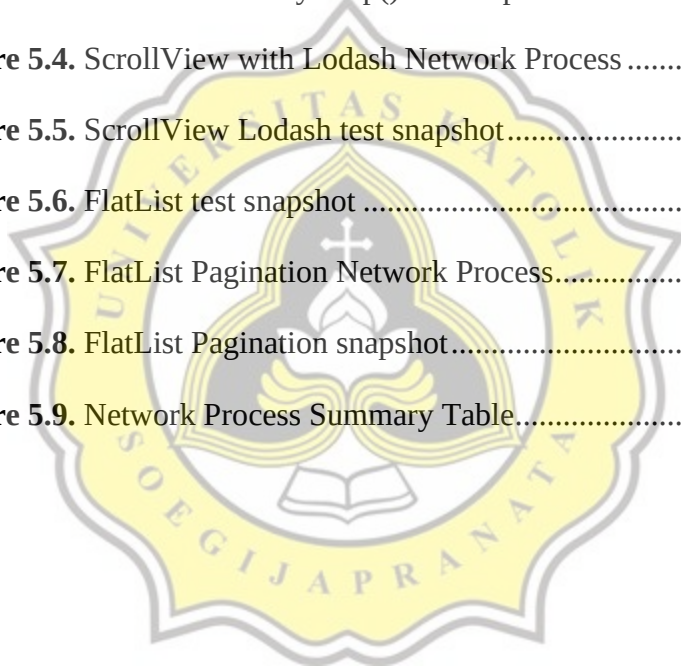
COVER.....	i
STATEMENT PAGE OF SCIENTIFIC WORK PUBLICATION FOR ACADEMIC INTEREST.....	ii
ACKNOWLEDGMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURE	vii
LIST OF TABLE	viii
CHAPTER 1 INTRODUCTION.....	1
1.1 Background.....	1
1.2 Problem Formulation.....	2
1.3 Scope	2
1.4 Objective.....	2
CHAPTER 2 LITERATURE STUDY.....	3
CHAPTER 3 RESEARCH METHODOLOGY.....	6
3.1 Journal	6
3.2 Data	6
3.3 Program	6
3.4 Implentation and Analysis.....	6
CHAPTER 4 ANALYSIS AND DESIGN.....	8
4.1 Analysis	8
4.2 Design.....	11
CHAPTER 5 IMPLEMENTATION AND TESTING	13
5.1 Implementation.....	13

5.2	Testing.....	23
CHAPTER 6 CONCLUSION.....		41
6.1	Conclusion	41
6.2	Suggestion.....	41
REFERENCES.....		42
APPENDIX.....		a



LIST OF FIGURE

Figure 4.1. Flowchart Process	11
Figure 4.2. FlowChart Fetch Data	12
Figure 5.1. FlatList Pagination Process.....	21
Figure 5.2. ScrollView Array.Map() test Network Process	25
Figure 5.3. ScrollView Array.Map() test snapshot	26
Figure 5.4. ScrollView with Lodash Network Process	28
Figure 5.5. ScrollView Lodash test snapshot.....	30
Figure 5.6. FlatList test snapshot	34
Figure 5.7. FlatList Pagination Network Process.....	36
Figure 5.8. FlatList Pagination snapshot.....	38
Figure 5.9. Network Process Summary Table.....	39



LIST OF TABLE

Table 5.1 : ScrollView Array Map Test.....	24
Table 5.2 : ScrollView with Lodash test.....	27
Table 5.3 : Total Network Process time comparison between ScrollView with Array.Map() and ScrollView with Lodash	29
Table 5.4 : FlatList test.....	31
Table 5.5 : Total Network Process time comparison between ScrollView and FlatList	33
Table 5.6 : FlatList Pagination Test.....	35
Table 5.7 : Total Network Process time comparison between FlatList and FlatList Pagination.....	36

