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College of
Built Environment

Poster Book

IIIDBEE X 2023
20 JANUARY 2023
*International Invention, Innovation & Design Exposition
for Built Environment and Engineering 2023*

**College of Built Environment
UiTM Puncak Alam**
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**Unleashing Potentials
Shaping the Future**

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STRATA CALCULATOR: MOBILE APPLICATION TO FACILITATE SHARE UNIT AND CHARGES FOR STRATIFIED AND LANDED STRATA

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College of Built Environment (CBE)

INTRODUCTION

Share Unit value is important in calculating maintenance fee in Strata Title. This study aims to develop a strata calculator mobile application for calculating share unit and charges that include maintenance fee and sinking fund. The party that is responsible in calculating share unit is Licensed Land Surveyor. Meanwhile, the party that involve in calculating maintenance fee and sinking fund is Joint Management Body (JMB) or Management Corporation (MC) of the building. The objectives of this study are to commercialize the share unit calculation to the public. The workflow of this application is using Agile Software Development Life Cycle methodology to ensure that all of the objectives are achieve. The development begun with a research background of the topic. Followed by, conducting a survey for user requirements for the application. After obtaining the result from the survey, the application is built based on the result. The development platform used is Android Studio, Flutter and Java programming. The calculations provide in this app have been tested and the result obtain are correct and precise. During User Acceptance Test (UAT), Strata Calculator mobile application has received feedback from various user such as Licensed Land Surveyor and JUPEM.

PROBLEM STATEMENT

Share unit is introduced to require the collection maintenance and management charges (Rubiah & Siti, 2018). Share Unit is computed based on the area, usage, size and location of the accessory parcel using the formula under strata title rules. The bigger the size of the parcel, the higher the share unit. Nowadays, according to Ghazali (2016), most developer does not have an interest in understanding the share unit. As the result, they tend to change the maintenance fee from time to time at a higher rate. It gives a burden to the house owner or the parcel owner as they do not expose to the share unit.

Nowadays, most of the surveyor used Microsoft Excel in order to calculate share unit for parcel during strata survey. Although it is faster than the conventional method which need to be calculate manually, it is still less convenient as we need to used laptop which some of the laptop need a constant power supply. It also can increase the error as we need to enter many numbers and many equations to calculate the share unit.

OBJECTIVES

- To conduct a survey for users' requirements for the topic.
- To develop a strata calculator mobile application to calculate share unit and maintenance charges for stratified and landed strata.
- To conduct User Acceptance Test (UAT) for the capability of the Strata Calculator Mobile Application.

METHODOLOGY

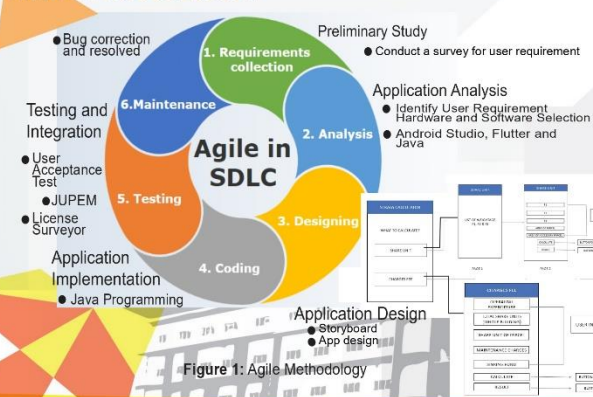


Figure 1: Agile Methodology

FINDINGS

Screen 1: Share Unit

Figure 2: Result Comparison for Share Unit from Joint Management Body (JMB) Pusat Komersial Seksyen 7, Shah Alam

Rumah	Jenis Susunatur	Keluasan Lantai(m ²)	Unit syer (dibundarkan)
Intermediate unit	Type 1, 1a, 1b	80.2682	68 ✓

Figure 3: Result Comparison for Maintenance Fee, Sinking Fund and Total Charges Fee from Joint Management Body (JMB) Pusat Komersial Seksyen 7, Shah Alam

Badan Pengurusan Bersama Pusat Komersial Seksyen 7, Shah Alam			
Belanjawan penyelenggaraan 2019	RM952,908.51		
Kos purata setiap bulan	RM79,409.04		
Jumlah unit syer	108149		
Caj penyelenggaraan semasa	0.73		
Number unit rumah	VG/3	Caj penyelenggaraan Semasa	RM86.64
Block	L	Unit Syer	118
		Sinking Fund(10%)	RM8.66 ✓
Keluasan Unit	M ² 138.24 FT ² 1488.00	Jumlah Perlu dibayar	RM95.31 ✓

NOVELTY

Through questionnaires and literature studies, it was found that no mobile application used to calculate Unit Share or charges from JMB or MC. Most of Licensed Surveyors or JMB/MCs only use Microsoft Excel to calculate Unit Share, Maintenance, and Sinking Fund Charges.

The features of the design for which novelty is claimed are the shape and configuration of the application as shown in the representations of this application. The application is the first mobile application to facilitate share unit calculation, including maintenance fees, and sinking funds charges.

COMMERCIALIZATION

This application is useful for surveyors, developers, JMB/MC and public user who has an asset under Strata Title as they can directly calculate the share unit in the convenience and shortest way.

CONCLUSION

This Strata Calculator is robust and can be used for all conditions whether stratified building or landed strata. Work on calculating unit share and charge maintenance and sinking fund can be easy

RECOGNITIONS

NGGSIC2022 - System Innovation (Second Place & Gold Award)
JUPEM Subject Matter Expert (SME)