

Chapter 1

Introduction

1.1 Introduction

In Indonesia, underage driving has become a common occurrence and it has become a concerning occurrence. Adolescents in urban cities are common to frequently commit traffic violations that overtime become normalized and perceived as part of their everyday culture. These violations include things like speeding, running red lights, riding without helmets, using mobile phones while driving, and riding illegally on sidewalks. The consequences range from minor injuries to fatalities and severe traffic congestion.

A crucial case study is provided by Bandung, a heavily urbanized and crowded city. Bandung, which is well-known for its busy lifestyle, student body, and motorcycle dependence, is especially susceptible to traffic infractions committed by teenagers. 47.3% of Bandung's teenagers use motorbikes as their main form of transportation, according to a 2018 survey on travel behavior (Miftah et al., 2018). This exposes them to high-risk traffic situations on a daily basis.

According to data from the Bandung Municipal Police (2016), Between 2012 and 2015, there was a steady rate of traffic accidents in the city of Bandung, with a total of more than 3,000 incidents, many of which involved teen drivers. This bolsters assertions that the city's infrastructure and traffic patterns present major obstacles to road safety, particularly for inexperienced and unlicensed young riders.

Research by Yanuvianti in 2018 further confirms that adolescents in Bandung engage in risky behaviors such as speeding and ignoring traffic signals due to overconfidence, peer pressure, and cultural normalization of poor driving habits. Helmet usage is often neglected, with studies showing a threefold increase in fatality

risk among unhelmeted young riders. Moreover, Bandung's dense traffic, limited pedestrian infrastructure, and erratic public transport systems exacerbate these issues.

Despite efforts by the Indonesian government to promote road safety—such as the “Police Goes to School” program—these initiatives have largely failed to reduce accidents. A study conducted in Jember Regency concluded that conventional safety education had minimal impact on adolescents' actual road behavior due to lack of engagement and real-world relevance (Yuliati, 2020).

In this context, a more immersive and relatable solution is needed—especially one that resonates with Bandung's tech-savvy youth. Leveraging Visual Communication Design and mobile game platforms, this project aims to promote ethical driving behaviors through interactive, culturally relevant gameplay tailored to the realities faced by adolescents in Bandung.

1.2 Problem Identification

In Bandung, adolescent motorcycle riders are heavily involved in traffic violations—ranging from speeding and running red lights to riding without helmets. A study by Miftah et al. (2018) found that 47.3% of adolescents in Bandung use motorcycles as their main mode of transport, highlighting their high road exposure despite many being unlicensed and underage.

Traffic data from the Bandung Police Department (2016) recorded over 3,000 traffic accidents between 2012–2015, with adolescents frequently cited as key contributors. Risky behavior is often driven by overconfidence, peer pressure, and social norms, while government safety programs like “Police Goes to School” have failed to create long-term behavioral change (Yuliati, 2020).

At the same time, over 97% of junior and senior high school students own smartphones, and many use them for gaming (Rahmat et al., 2023). This suggests a gap between the way safety messages are delivered and the media adolescents actively engage with.

To address this, a mobile game can be developed as an educational platform—designed to reflect real road scenarios while using gamified experiences to promote ethical driving in a format that adolescents actually enjoy and understand.

1.2.1 Research Question

- What types of traffic violations are most commonly committed by adolescents in Bandung?
- What factors contribute to these risky driving behaviors despite existing safety programs?
- How can a mobile game be designed using visual communication strategies to effectively educate adolescents about road ethics?
- In what ways can gamification enhance engagement and behavioral change in adolescent drivers?

1.3 Scope of Research

The research will be mainly focused on an Urban City specifically Bandung. In Bandung there's a lot of congestion that is very noticeable in certain hours. The place itself can be bustling with many adolescents as well that are engaged in driving.

This study explores the common issues of adolescents specifically in those who disobey the common traffic rules and ethics. The research aims to understand the factors contributing to the high accident rates and us as Visual Communication Design students can do.

1.4 Design Goals

The Goal for this research is to create a media that can help as a platform to information and educate the young adolescents about the road ethics effectively.

1.5 Design Benefit

- Contributing to Road Safety Solution
- Improving Adolescent Driver Education

- Raising Public Awareness

1.6 Design Method: Mixed Qualitative and Quantitative method

In this project, the author adapted to integrating both qualitative and quantitative design methods to gain understanding of this issue. The qualitative method was used in order to explore in depth insights, opinions, and behaviors. While the quantitative method was used to collect measurable data. Allowing for pattern recognition and validation of findings of a broad population. By combining these two methods, I aim to explore both and confirm key aspects of the problem to create an effective design decision

1.6.1 Data Collection: Observation

Observation was conducted in selected public areas of Bandung known for high traffic density and adolescent activity, such as near schools and urban intersections. Bandung was chosen due to its status as a student-populated urban center with a high rate of motorcycle usage among youth. According to Miftah et al. (2018), 47.3% of adolescents in Bandung rely on motorcycles, making them especially prone to road risks.

By observing real-life driving behaviors—such as riding without helmets, using sidewalks, or ignoring traffic lights—this method provides visual and contextual insight into the actual road ethics practiced by adolescents. These observations help shape the scenarios and challenges designed into the mobile game, ensuring they reflect authentic local behaviors.

1.6.2 Data Collection: Literature Review

The literature review supports the observational findings by providing theoretical and statistical background. Sources include government traffic reports, academic journals, and studies related to adolescent behavior, road ethics, visual communication, and gamification.

1.6.3 Data Collection: Interview

Interviews were conducted with adolescents from several schools in Bandung, including SMPN 13, SMAN 8, and SMKN 3. The goal was to gain firsthand insight into their attitudes toward road safety education and media consumption habits.

Bandung was chosen because of its diverse student demographic and existing traffic issues, making it an ideal sample for the intended audience. Interviews revealed that most students found traditional programs like PLS (Program Luar Sekolah) ineffective and preferred interactive media, especially mobile games. This feedback is essential in shaping a design solution that aligns with their preferences and behaviors. perspectives and uncover deeper insights into the social and psychological factors influencing adolescent driving in Bandung.

1.7 Design Framework

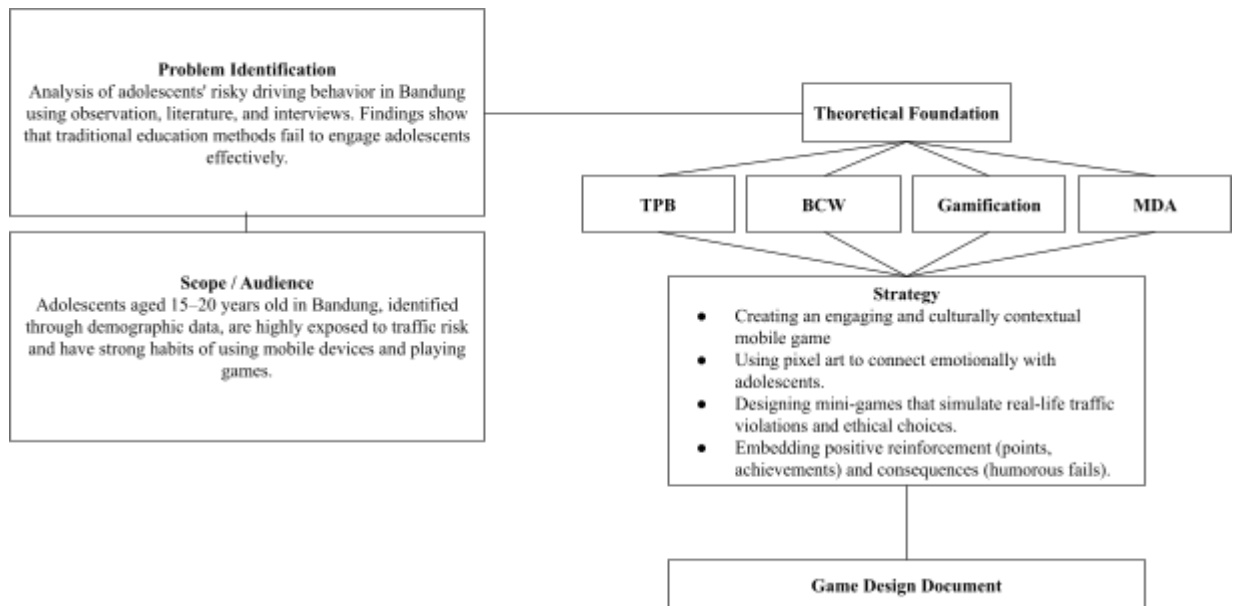


Image 1.1 Design Framework

Source: Personal Data

1.8 Chapter Structure.

Chapter 1: Introduction

This chapter discusses the background, problem identification, problem formulation, scope of research, design goals, benefits, research methods, data collection, data analysis method, research framework and the chapter structure

Chapter 2: Theoretical Foundation

This Chapter contains the theoretical foundation that will be used to create this project

Chapter 3: Data and Analysis

This Chapter Discusses research methods and explains data collection techniques, data analysis and design stages that will be used throughout this project.

Chapter 4: Concept and Design Result

The result from previous chapter as a whole in order to make a concept of a Game Design Document which include things like the Game concept, media, platform, flow chart, minigame design, and UI Wireframe design

Chapter 5: Conclusion

Conclusion that includes answers in regards to the previous problem