



life.augmented

# STM32 Quest : 2024 University Developer Contest

## Remote Bike Key

University : UST

Team members : 박형태(엣취), 이동찬(뽕족머리 삼돌이)

## ● Project concept (5-10 lines)

- 한국에서 자전거 절도 사건은 빈번하게 발생, 효과적인 예방 시스템 필요
- 자전거 잠금장치에 초점을 맞춰 물리적 충격 및 이상 움직임 감지를 위한 스마트 보안 솔루션 개발
- 전동 킥보드 등 다양한 교통수단에 적용 가능

## STM32WB55

- U5G9J-DK2 보드에서 명령을 받아 각종 명령 실행
- IMU 센서와 STM32 보드를 사용해 잠금장치의 이상 상태를 실시간으로 감지
- LED와 스피커를 통해 시각 및 청각적 경고를 제공하여 사용자에게 즉각적인 알림 전송
- GPS 모듈 추가를 통해 위치 추적 기능

# Necessary hardware and skills

- What do we need to make this project successful ?

ST hardware	Non-ST hardware	Programming language	Software tools	Miscellaneous
STM32U5G9J-DK (x1)	Buttons	C, C++	TouchGFX	
STM32U5G9J-DK (x1)	Joystick			
STM32WB55-NUCLEO	IMU	C, C++		
STM32WB55-NUCLEO	LED			
STM32WB55-NUCLEO	Speaker			
STM32WB55-NUCLEO	Lock system			
STM32WB55-NUCLEO	GPS 모듈			

# Project schedule

Tasks	W40	W41	W42	W43	W44	W45	W46	W47	W48
Design GUI	Yellow	Yellow	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Code GUI	Grey	Green	Green	Green	Grey	Grey	Grey	Grey	Grey
Implement Wireless feature	Grey	Grey	Blue	Blue	Blue	Grey	Grey	Grey	Grey
Full Integration	Grey	Grey	Grey	Grey	Purple	Purple	Purple	Grey	Grey
Testing	Grey	Grey	Grey	Grey	Orange	Orange	Orange	Grey	Grey
Project report creation	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Blue	Blue

# Our technology starts with You



Find out more at [www.st.com](http://www.st.com)

© STMicroelectronics - All rights reserved.

ST logo is a trademark or a registered trademark of STMicroelectronics International NV or its affiliates in the EU and/or other countries.

For additional information about ST trademarks, please refer to [www.st.com/trademarks](http://www.st.com/trademarks).

All other product or service names are the property of their respective owners.



life.augmented