

GOOD MORNING!

早上好!

안녕하세요!

DAY 6

DAY 5 (FINAL PROJECT)

- 비즈니스/System 요구 사항 업데이트
- 시스템 설계 및 프로세스 정립
 - System(High Level) Design
 - Schedule/Time Management
- 역할 분담 및 일정 조율
- 개발 환경 구축(맵 디자인, SW 개발, 문서 통합 관리)
- 멀티 로봇 환경 구축 및 네비게이션
- 멀티 로봇 개별 업무 수행
- 멀티 로봇 협동 업무 수행
- (Optional) Turtlebot4 각종 센서 데이터의 이해와 적용

DAY 6 (FINAL PROJECT)

- 시스템 설계에 기반한 객체 감지 모델 구현
- 로봇 환경에 적용 및 Unit Test
- 모듈로 제작하고 launch파일로 구현
- code 정리 및 버전관리, 문서 작성 및 영상 촬영, 팀 내 기술 브리핑
- 시스템 설계에 기반한 **SysMon** 설계 구현
- 로봇 환경에 적용 및 Unit Test
- 모듈로 제작하고 launch파일로 구현
- code 정리 및 버전관리, 문서 작성 및 영상 촬영, 팀 내 기술 브리핑

DAY 7 (FINAL PROJECT)

- 시스템 설계에 기반한 **AMR** 제어 구현
- 로봇 환경에 적용 및 Unit Test
- 모듈로 제작하고 launch 파일로 구현
- code 정리 및 버전관리, 문서 작성 및 영상 촬영, 팀 내 기술 브리핑

프로젝트 RULE NUMBER ONE!!!

Have Fun Fun Fun!



PROJECT SCHEDULE UPDATE BY EACH TEAM

BUSINESS REQUIREMENT UPDATE BY EACH TEAM

Using the posted notes and flipchart as needed

SOLUTION/SYSTEM REQUIREMENT UPDATE BY EACH TEAM

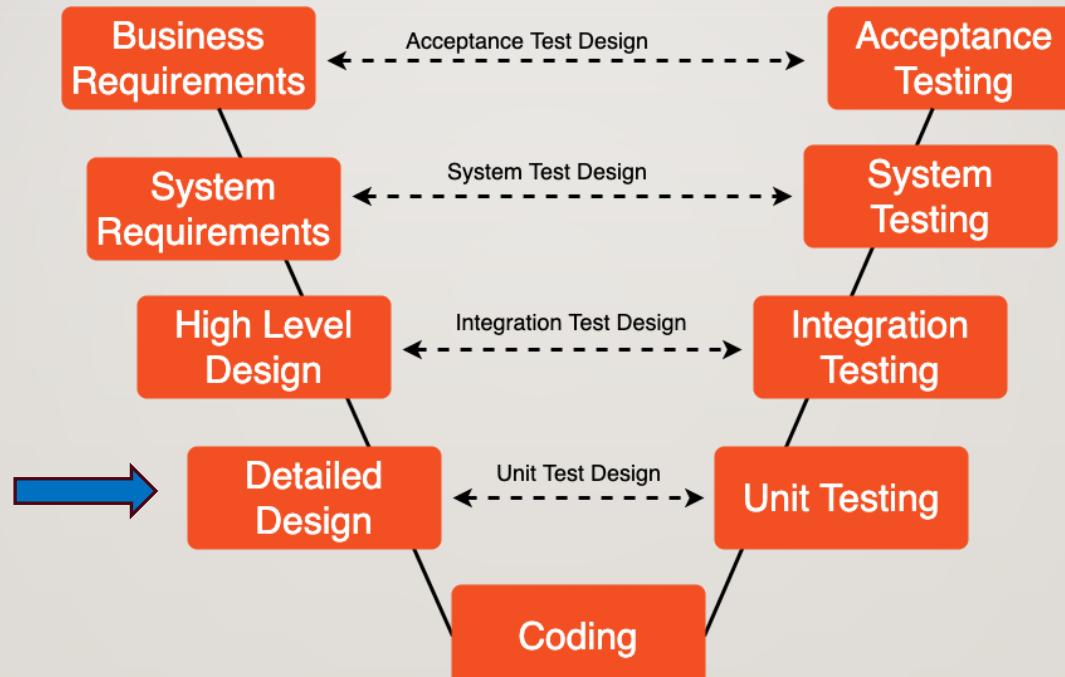
Using the posted notes and flipchart as needed

SYSTEM DESIGN ARCHITECTURE UPDATE BY EACH TEAM

Using the posted notes and flipchart as needed

**SYSTEM DESIGN ARCHITECTURE
PRESENTATION SHOULD BE DONE HERE
BUT POSTPONED TO DAY 7 AFTERNOON!!!!**

SPRINT I

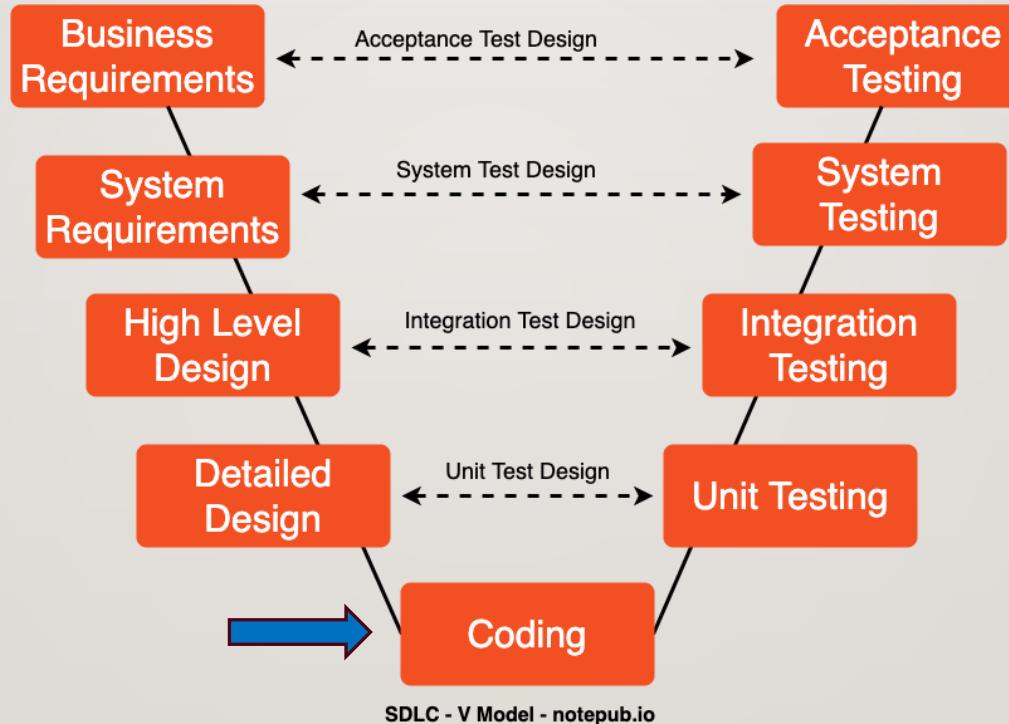


SDLC - V Model - notepub.io

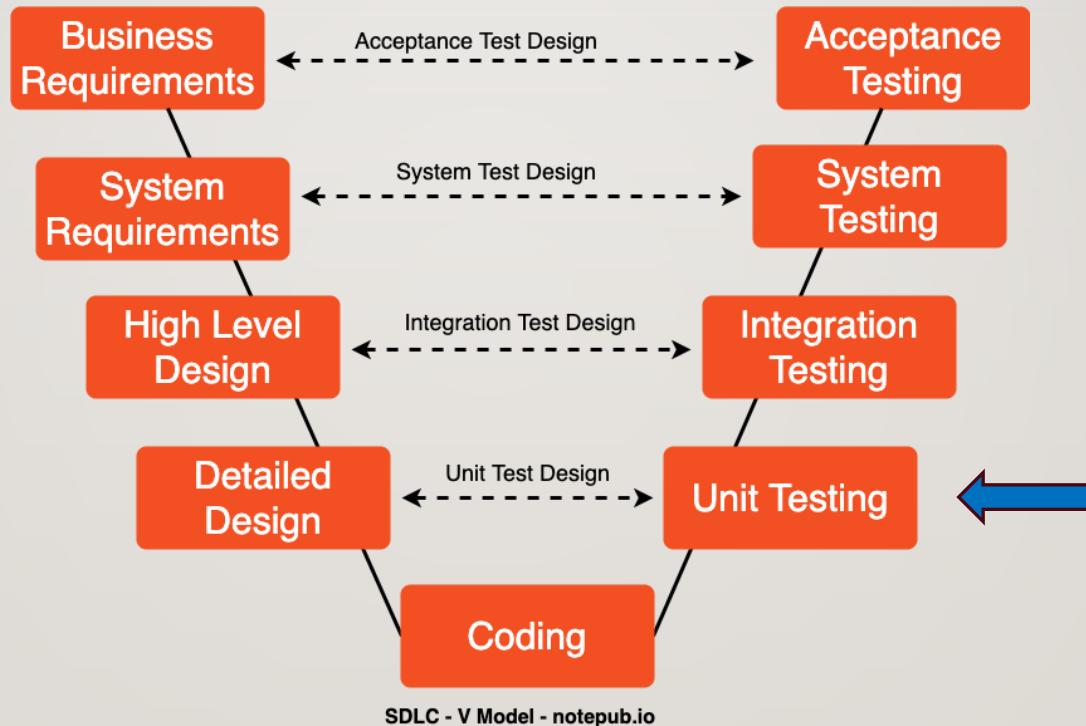
TEAM EXERCISE 12

Perform Detail Design of Sprint I using Process Flow Diagram

SPRINT I



SPRINT I



TEAM EXERCISE 13

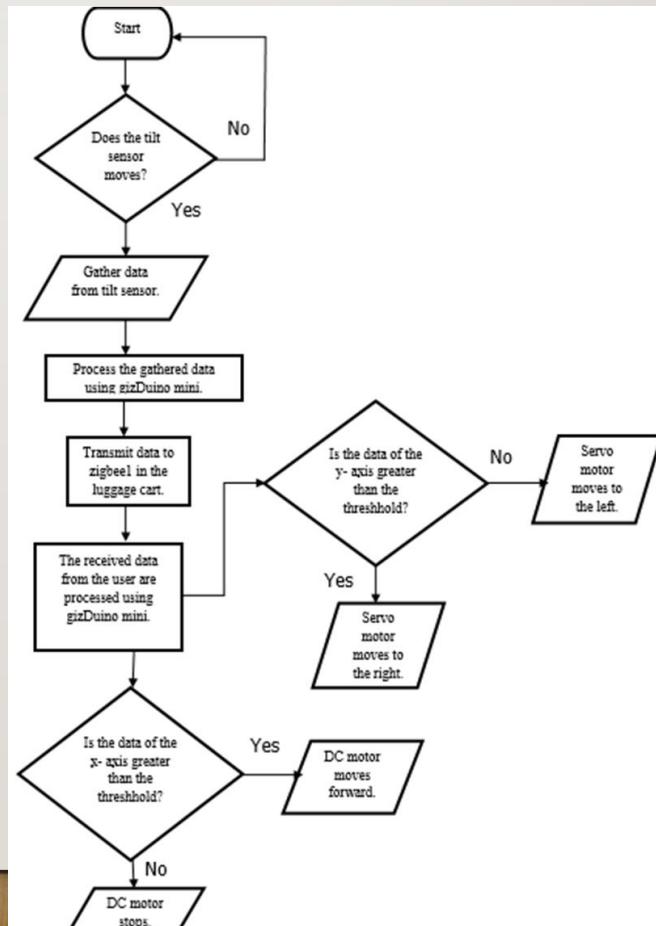
Perform coding and testing of Sprint 1 Module

(평가 2) DESIGN/CODE/TEST REVIEW BY EACH TEAM

Show actual results against the expected results and explain the code written

WHAT TO DO IN CODE REVIEW

- Explain
 - Design



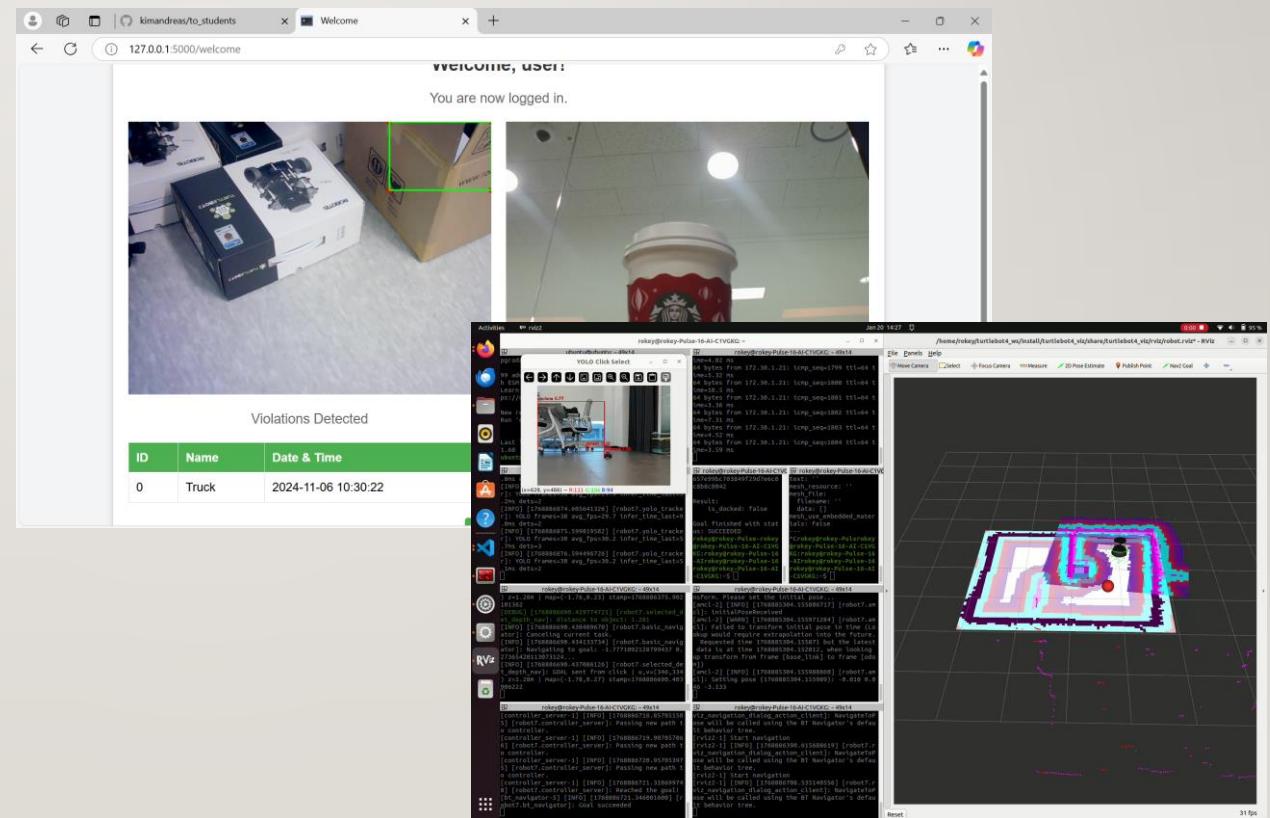
WHAT TO DO IN CODE REVIEW

- Explain
 - Design
 - Code

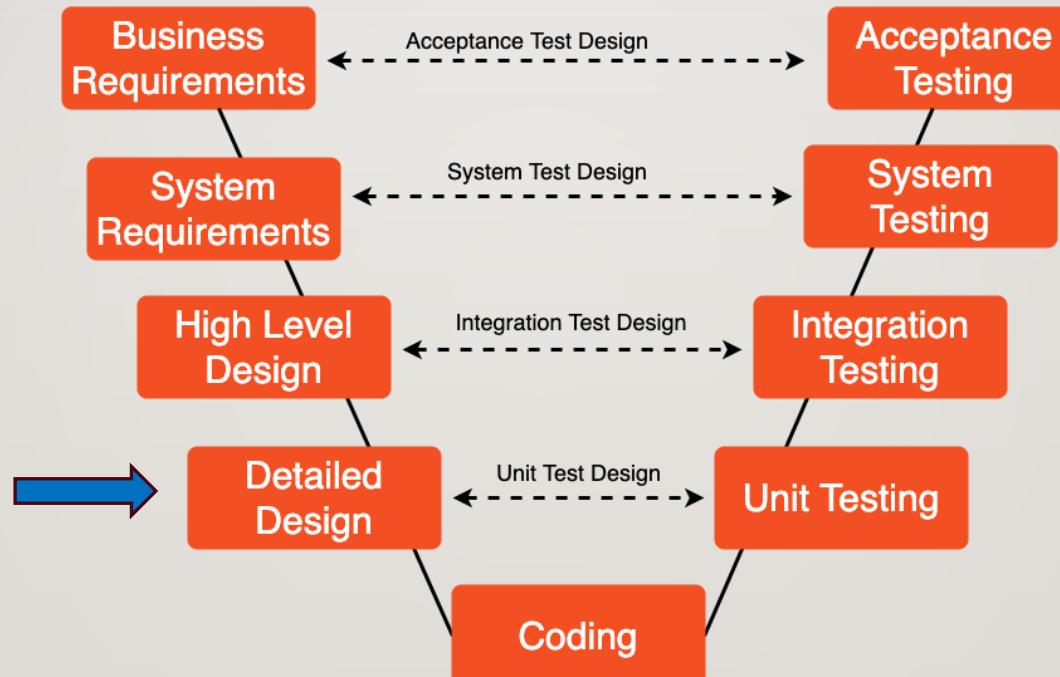
```
103     def decode_compressed_depth_16uc1(msg: CompressedImage) -> Tuple[Optional[np.ndarray], str]:  
128         depth = cv2.imdecode(png, cv2.IMREAD_UNCHANGED)  
129  
130         if depth is None:  
131             return None, f"cv2.imdecode failed (png_offset={i} len={len(buf)} format='{msg.format}')"  
132  
133         # Normalize shape: want HxW  
134         if depth.ndim == 3:  
135             depth = depth[:, :, 0]  
136  
137         if depth.dtype not in (np.uint16, np.float32):  
138             return None, f"decoded dtype={depth.dtype} (expected uint16 or float32) png_offset={i}"  
139  
140         return depth, f"ok png_offset={i} shape={depth.shape} dtype={depth.dtype}"  
141  
142  
143     class SelectedDetDepthNav(Node):  
144         """Time-sync selected detections with depth, then send Nav2 goals + marker."""  
145  
146         def __init__(self):  
147             super().__init__("selected_det_depth_nav")  
148  
149             # -----  
150             # Topic setup (namespace-aware)  
151             # -----  
152             # detection topic is relative so it follows __ns  
153             self.det_topic = "selected_detection"  
154  
155             ns = self.get_namespace().rstrip("/")  
156             self.depth_topic = f"{ns}/oakd/stereo/image_raw/compressedDepth"  
157             self.info_topic = f"{ns}/oakd/rgb/camera_info"  
158  
159             self.get_logger().info(f"Detection topic : {self.resolve_topic_name(self.det_topic)}")  
160             self.get_logger().info(f"Depth topic      : {self.depth_topic}")
```

WHAT TO DO IN CODE REVIEW

- Explain
 - Design
 - Code
 - Test/Validation
 - Test Code
 - Log Output
 - Screenshot/video
 - Photo/Video
 -



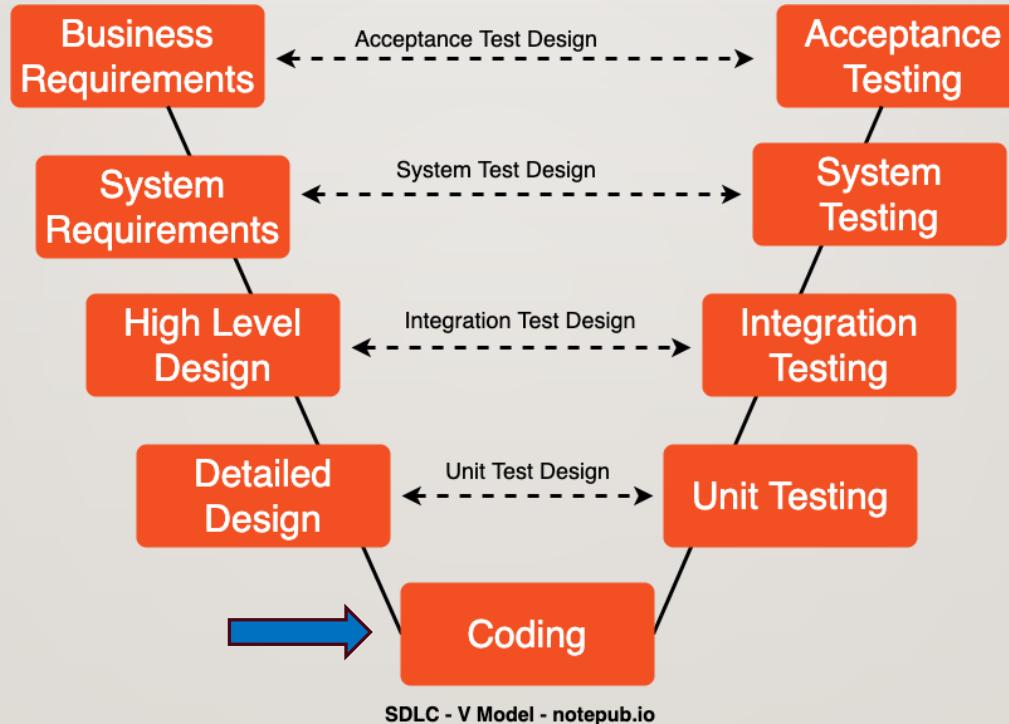
SPRINT 2



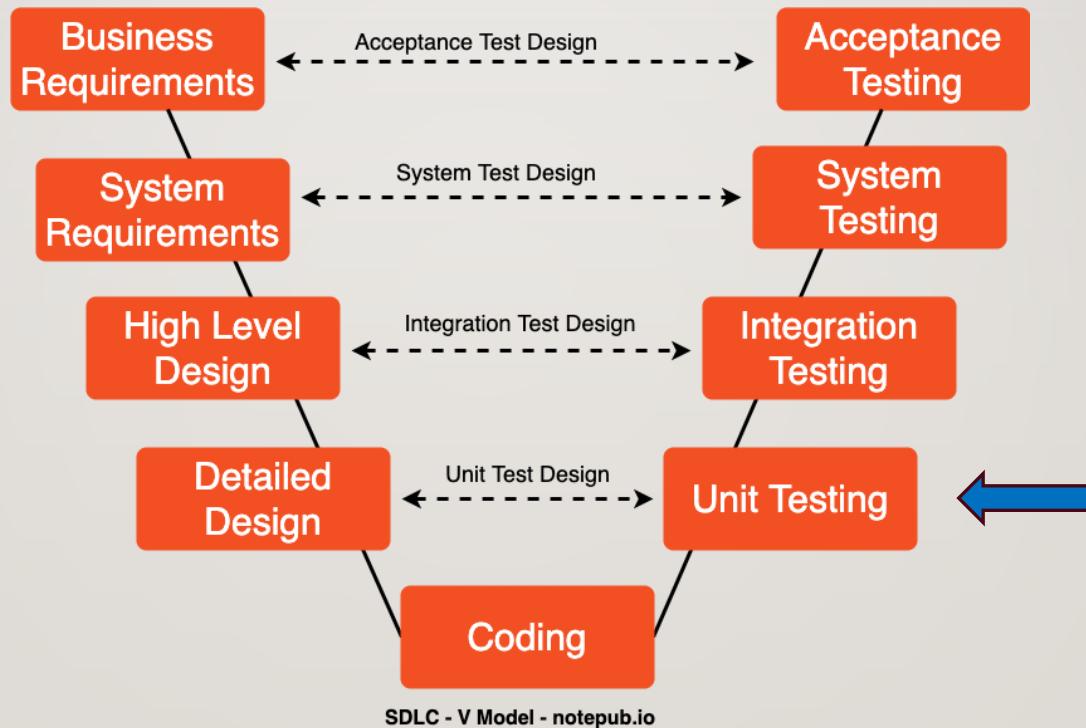
TEAM EXERCISE 14

Perform Detail Design of Sprint 2 using Process Flow Diagram

SPRINT 2



SPRINT 2



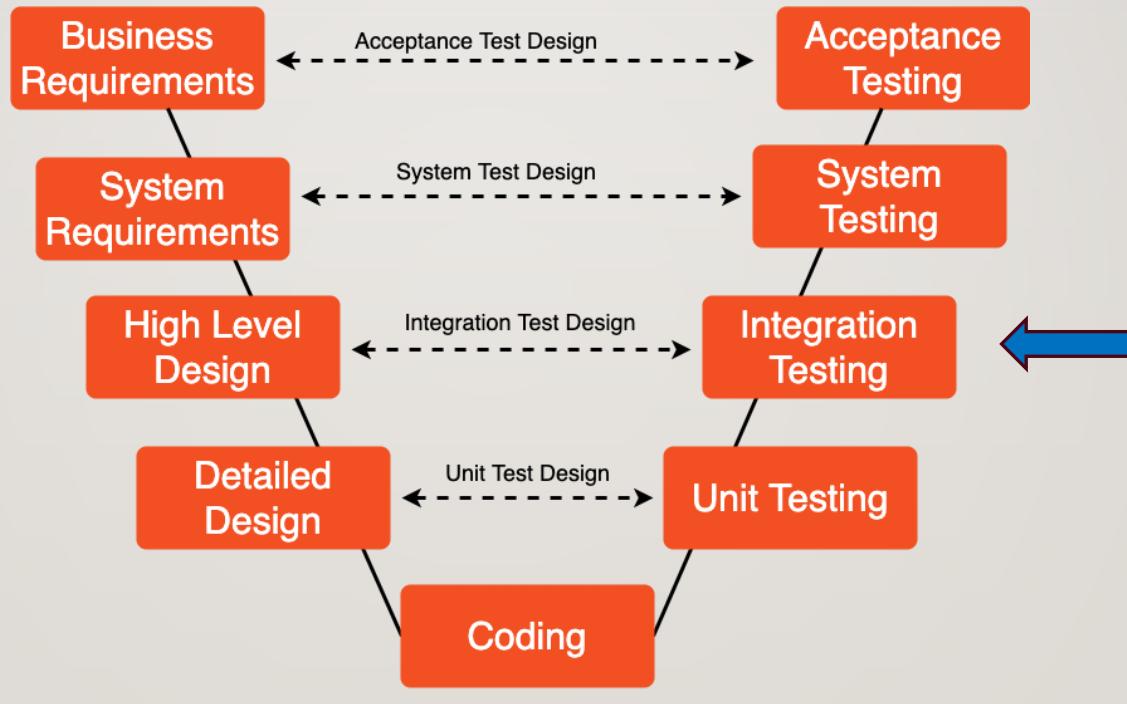
TEAM EXERCISE 15

Perform coding and testing of Sprint 2 Module

(평가 3) DESIGN/CODE/TEST REVIEW BY EACH TEAM

Show actual results against the expected results and explain the code written

SPRINT 1&2 – INTEGRATION & TEST



TEAM EXERCISE 16

Perform integrate and test of Sprint 1&2 Modules

SETTING SOLUTION NETWORK

DAY 5 - System Monitor & Multi Robot

Aa 이름

● Multi Robot Standard Setup

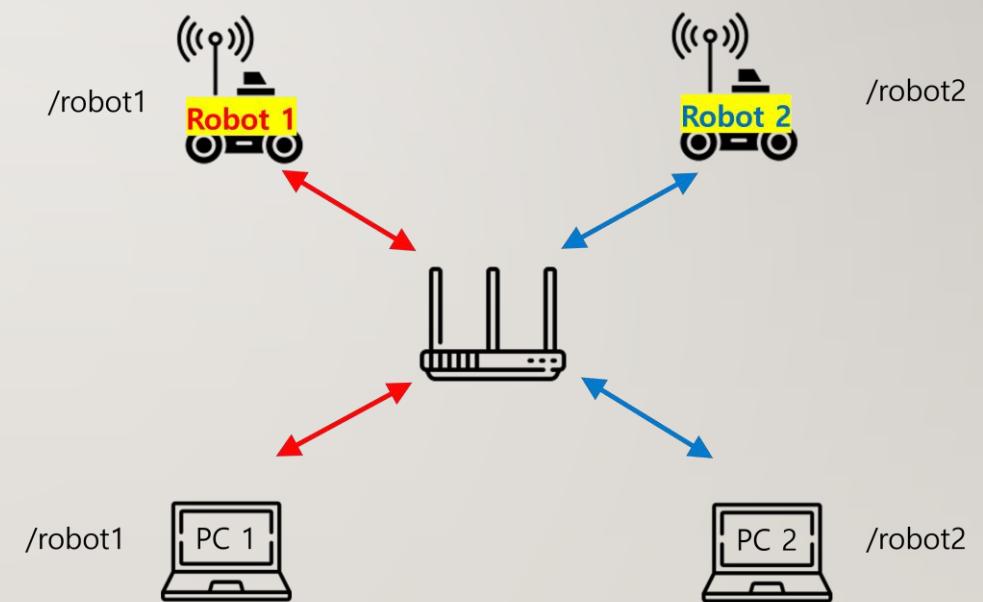
● Multi Robot Custom Discovery Setup

☰ ⌂ ⌄ 🔍

상태

● 시작 전

● 시작 전



프로젝트 RULE NUMBER ONE!!!

Are we having
Fun???

