



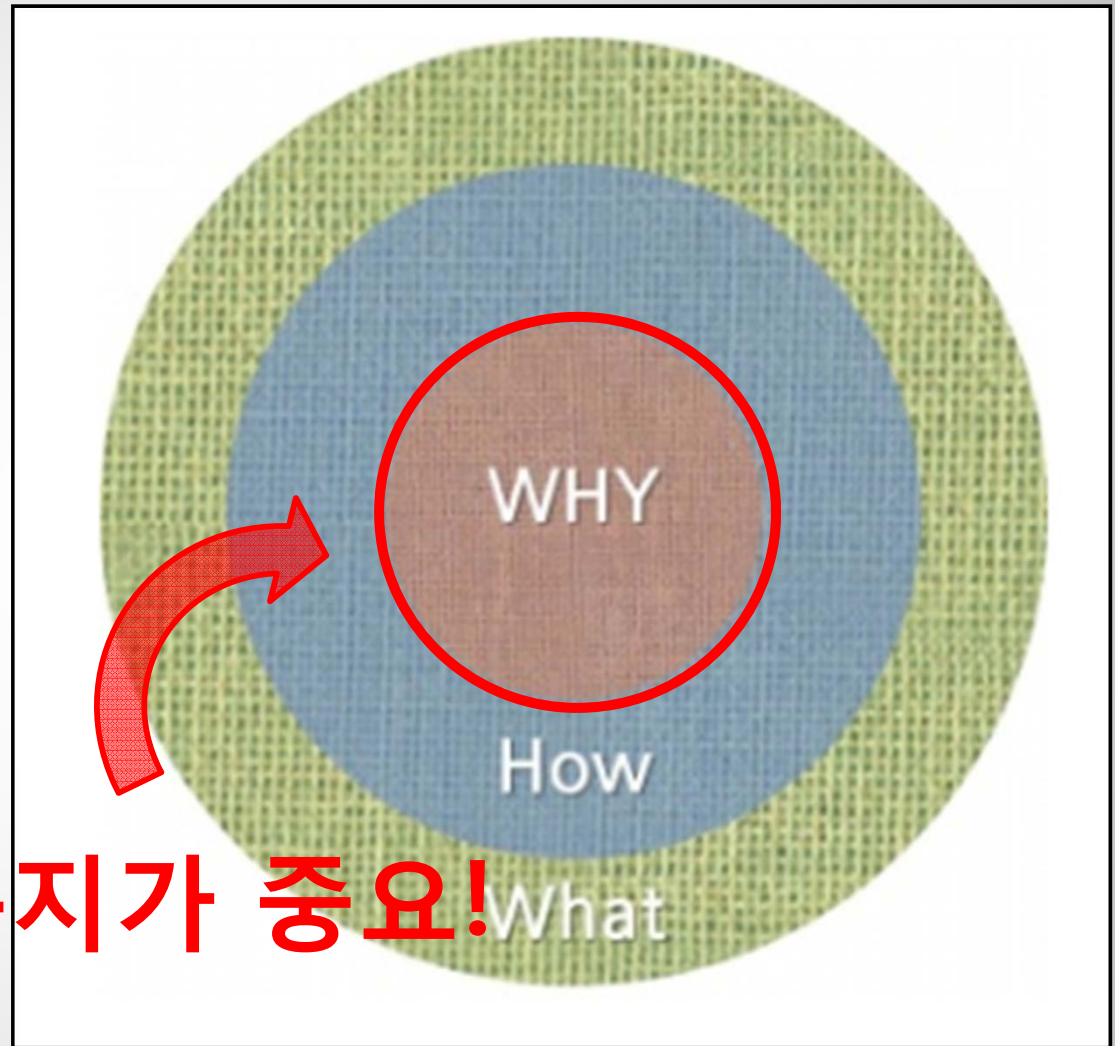
[Swivel Chair modelling]

2012012178 백종윤

2009008692 전경준

Know How?
Know Why!

왜 하는지가 중요!



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3. Kinematics 구현과정

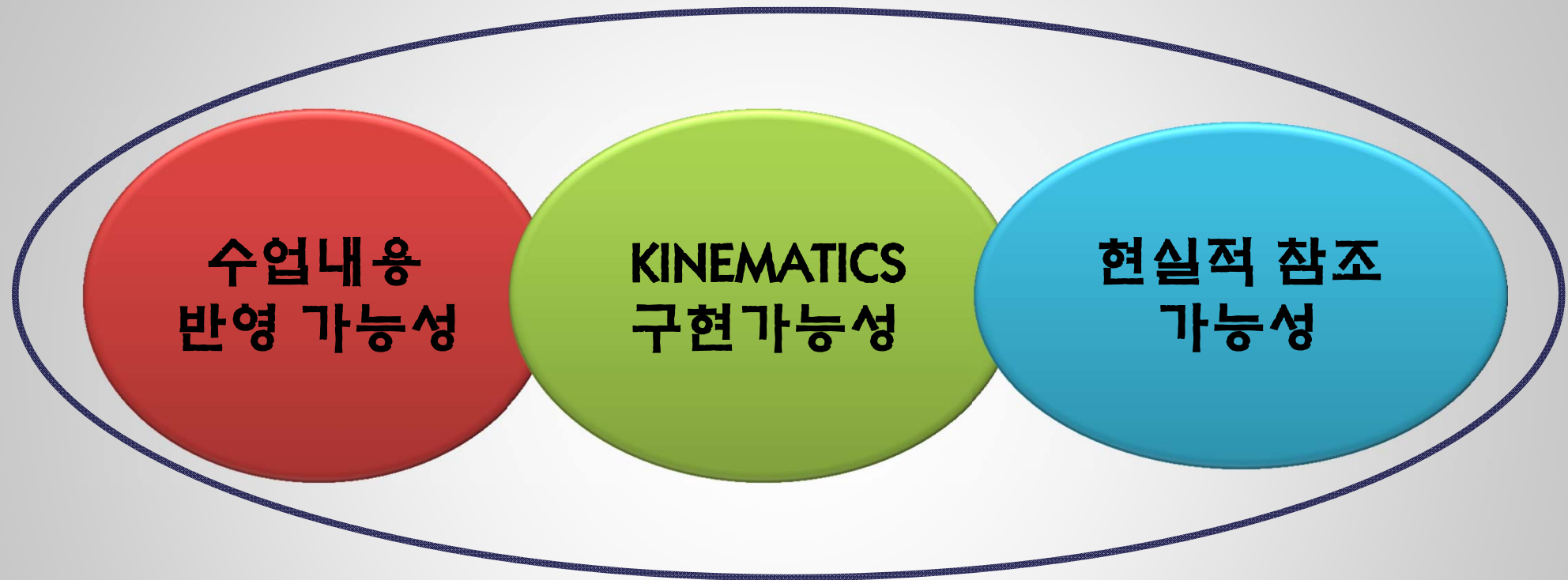
I. 모델 소개 및 선정이유

1. 모델 선정의 타당성
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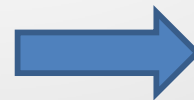


1. 모델 소개 및 선정이유

모델선정의 타당성 검토



세가지 조건 고려



Swivel Chair

1. 모델 소개 및 선정이유

실제 모델



등판, 머리받침대
General Shape Design



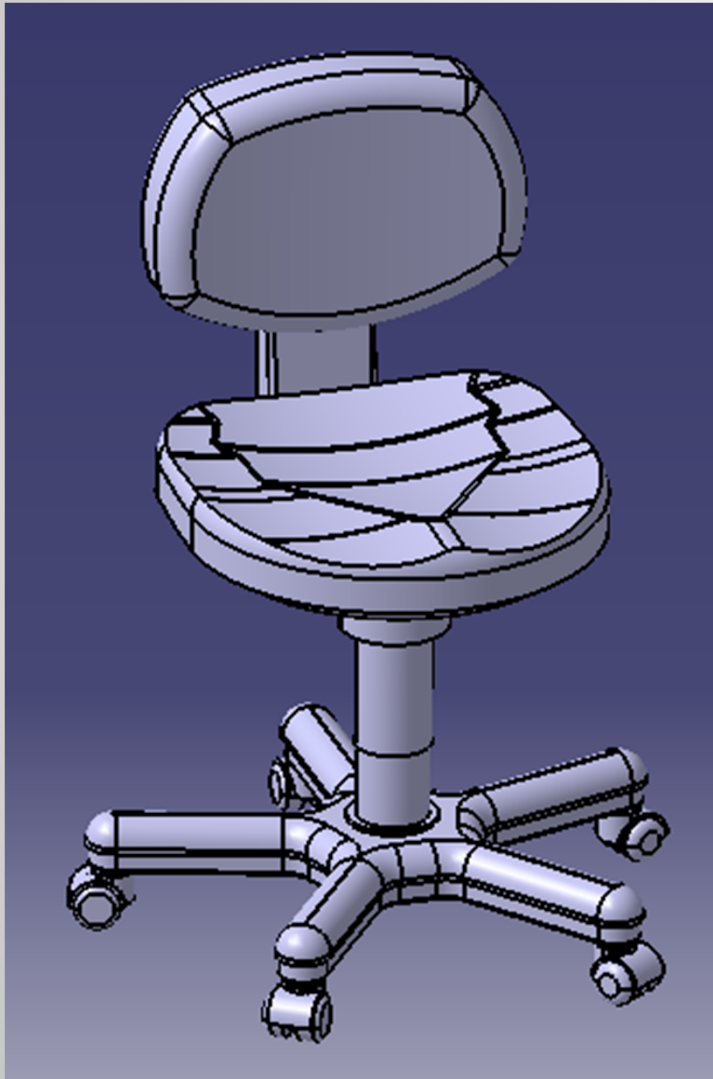
몸통, 다리, 손잡이
Part Design



회전, 병진 운동 구현가능

1. 모델 소개 및 선정이유

수치 참조 모델



● 의자의 높이, 크기 등을 참조

3. Kinematics 구현과정

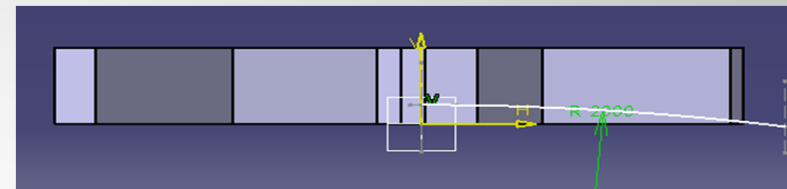
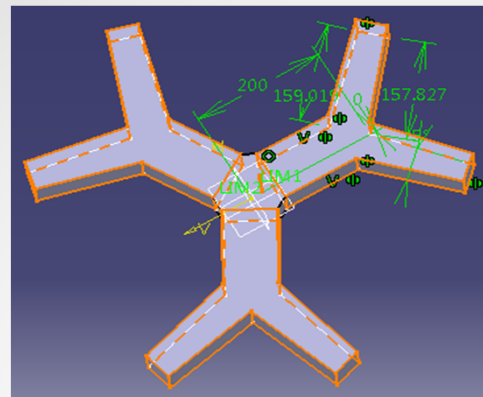
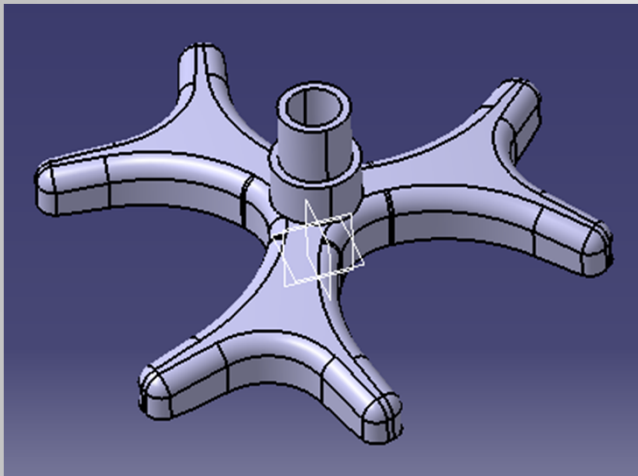
II. 모델링 과정

1. 다리 밑부분
2. 바퀴 휠
3. 바퀴
4. 몸통
5. 팔걸이
6. 등받이
7. 머리받이
8. 레버
9. 기타 부품



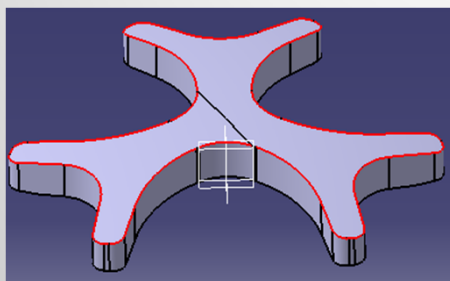
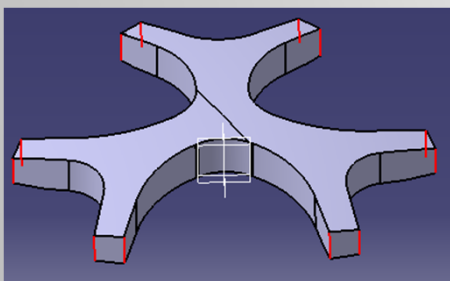
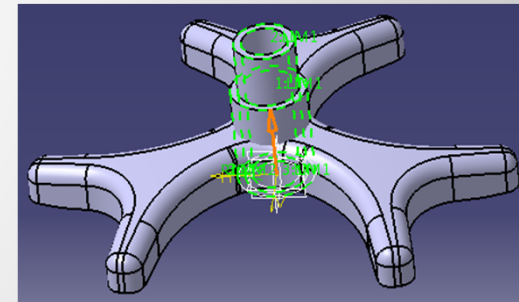
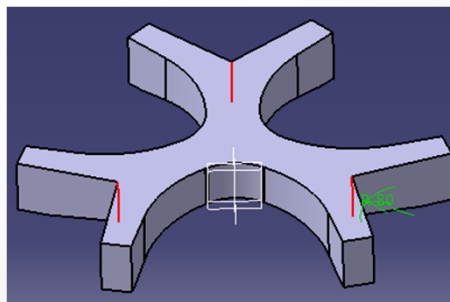
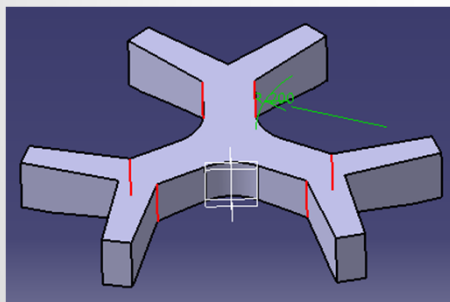
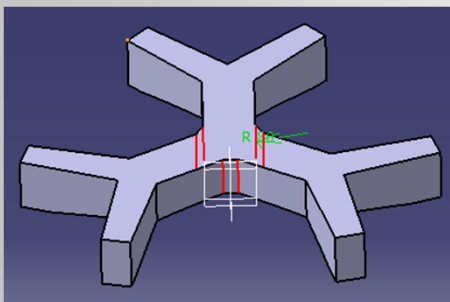
2. 모델링 과정

① 다리 밑부분



① Pad

② Groove

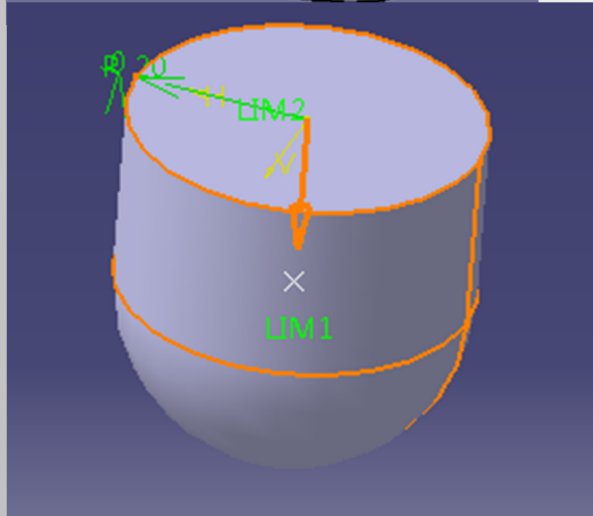
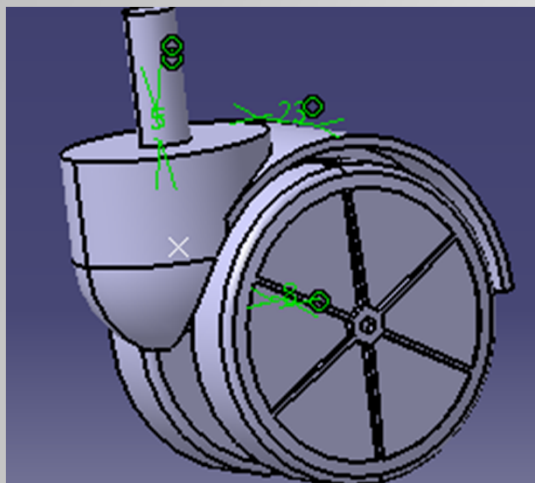


③ 각 모서리 순서에 맞춰 Fillet

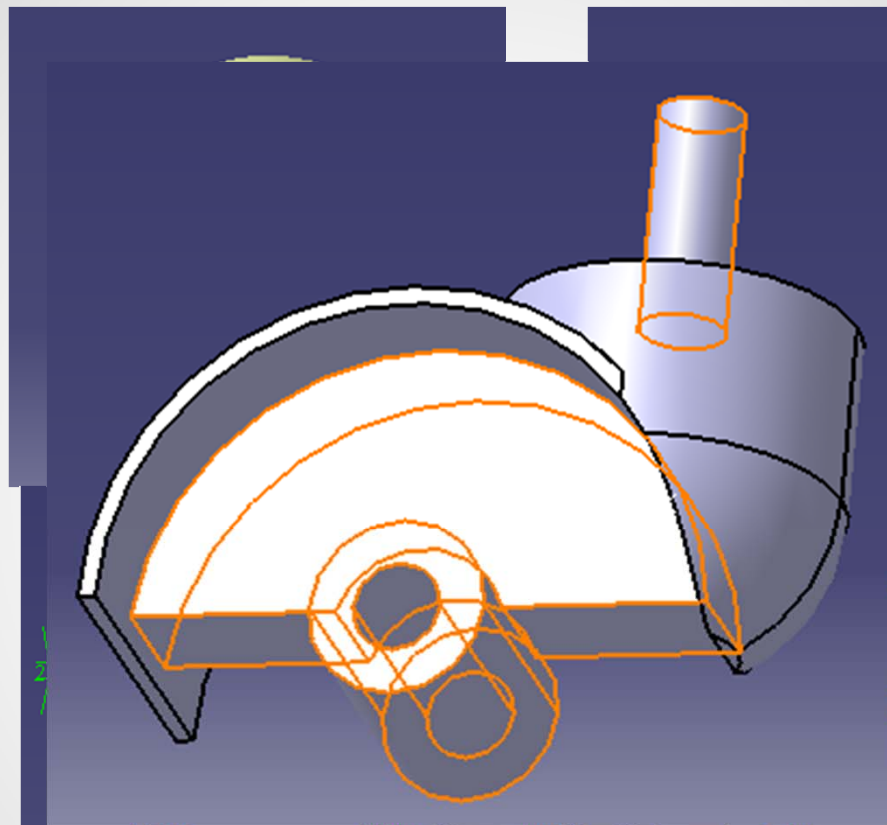
④ MultiPad + Boolean(Union trim)

2. 모델링 과정

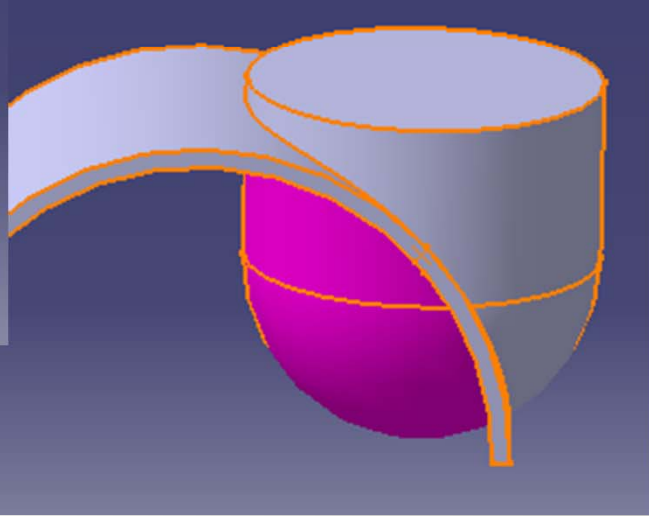
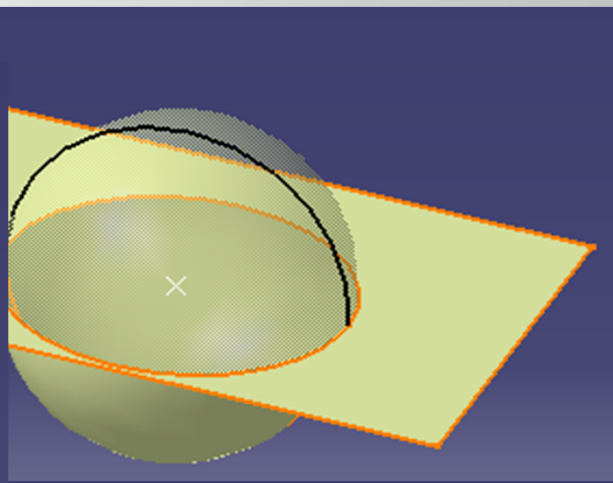
② 바퀴 휠



③ Pad (Up to surface)



⑥ Pad , Pocket

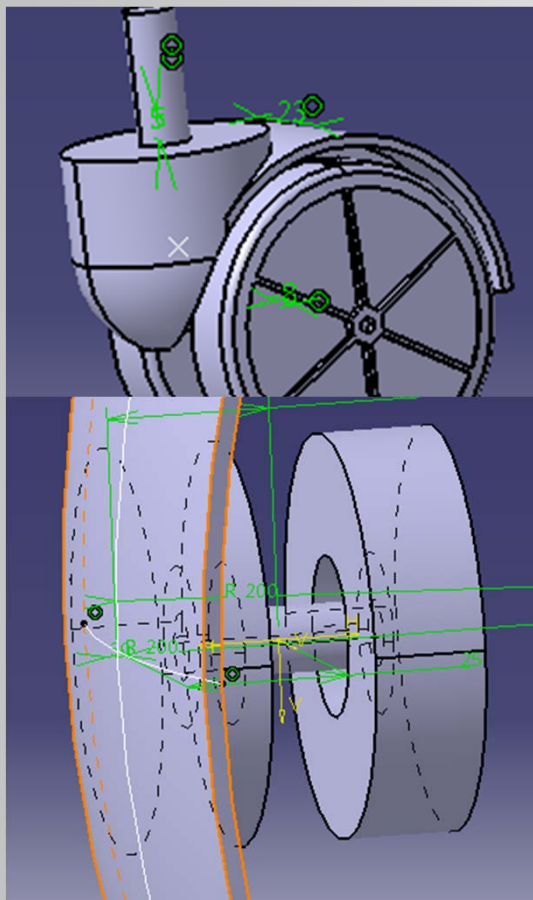


⑤ Boolean (Union trim)

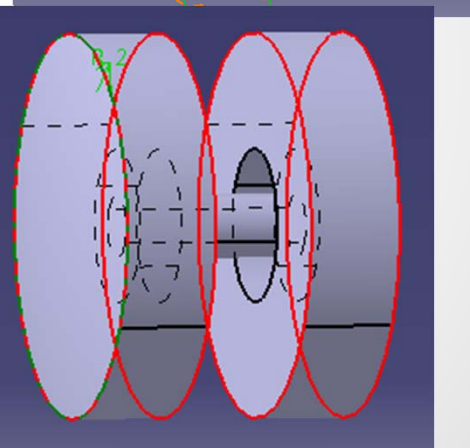
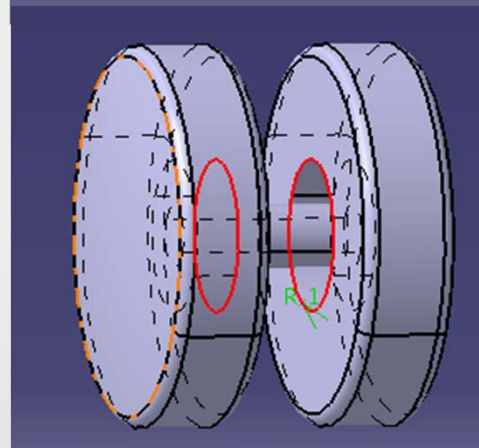
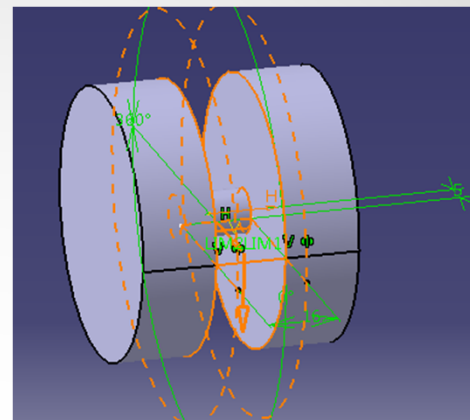
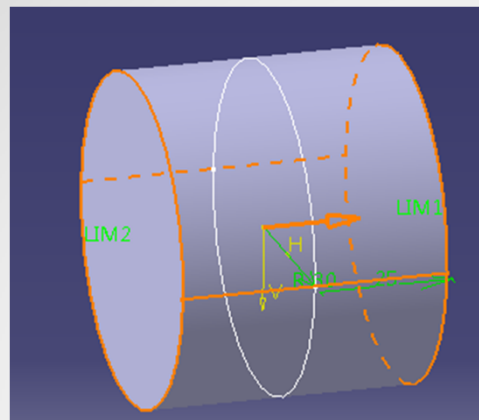
④ Pad

2. 모델링 과정

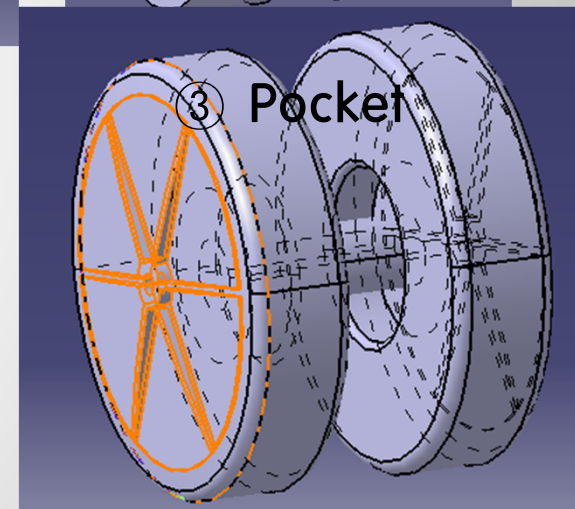
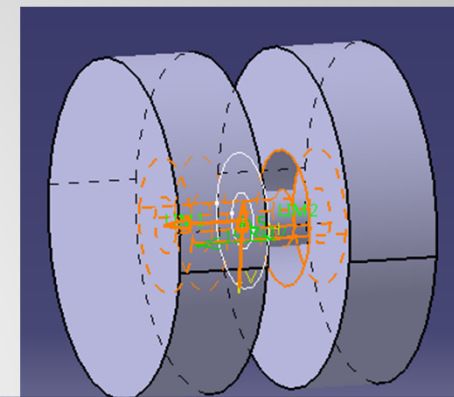
③ 바퀴



④ Rib => Remove



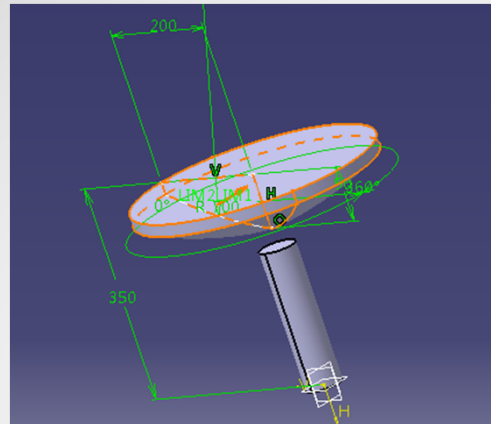
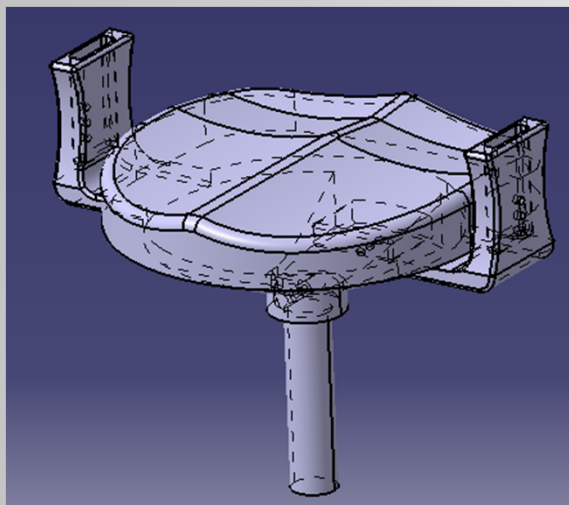
⑤ 순서에 맞게 Fillet



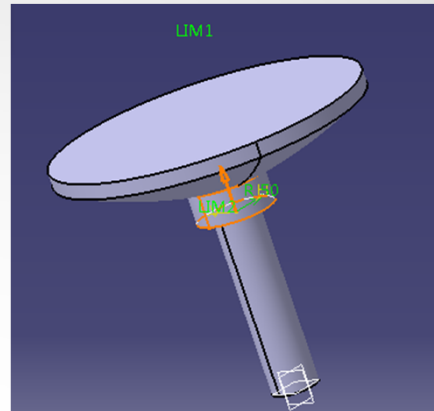
⑥ Pocket

2. 모델링 과정

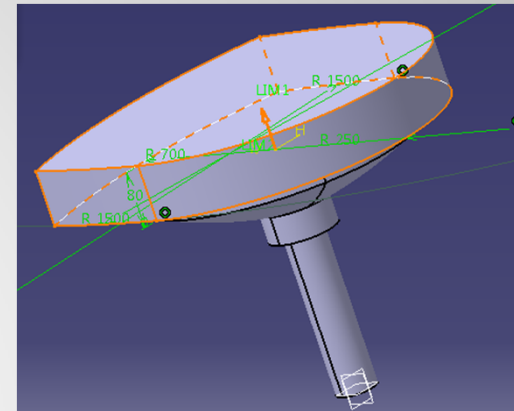
④ 몸통



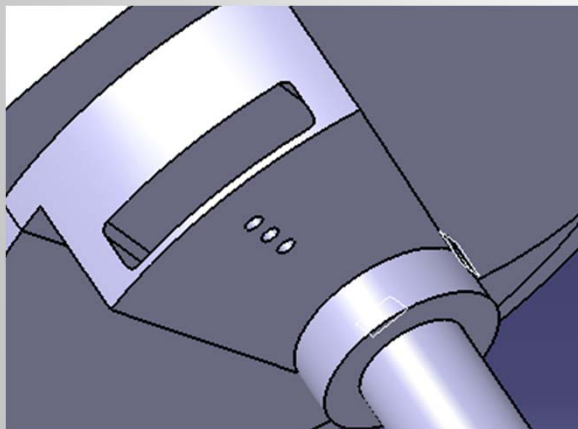
① Pad + shaft



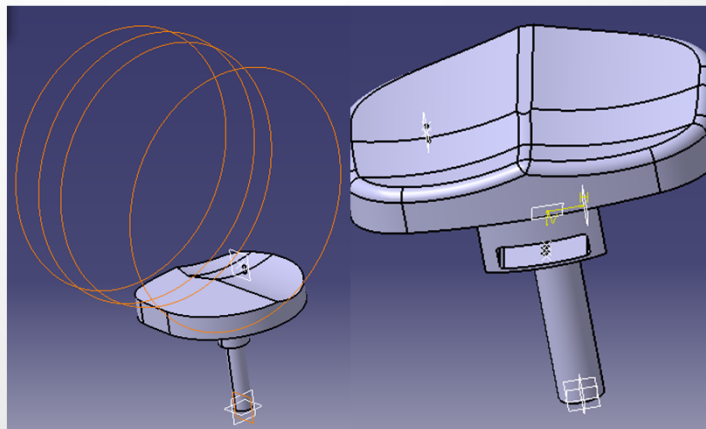
② Pad(up to next)



③ Sketch & Pad



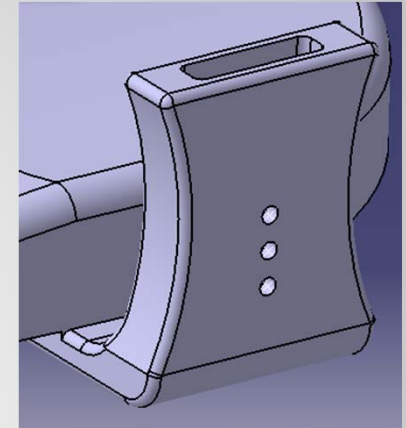
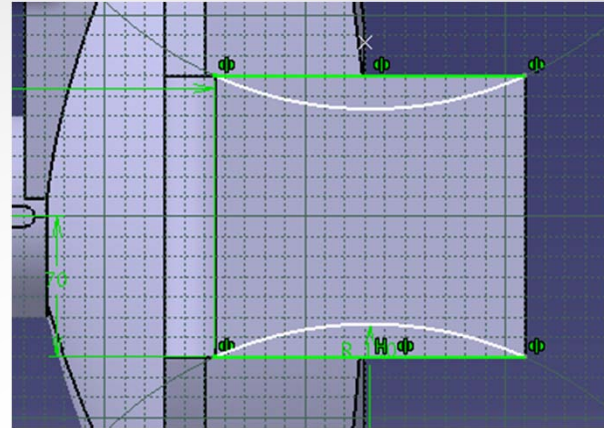
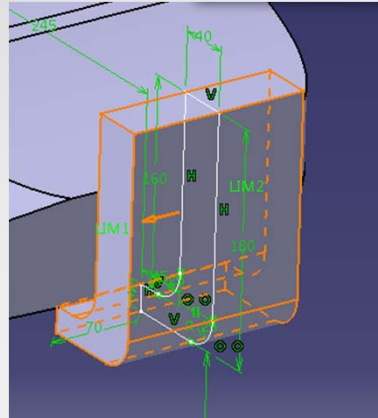
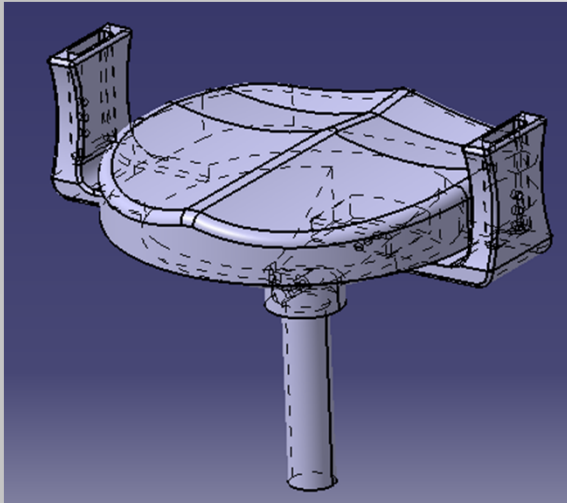
④ Pad+ Pocket + Hole



⑤ 엉덩이모양에 맞게 스케치 후 포켓

2. 모델링 과정

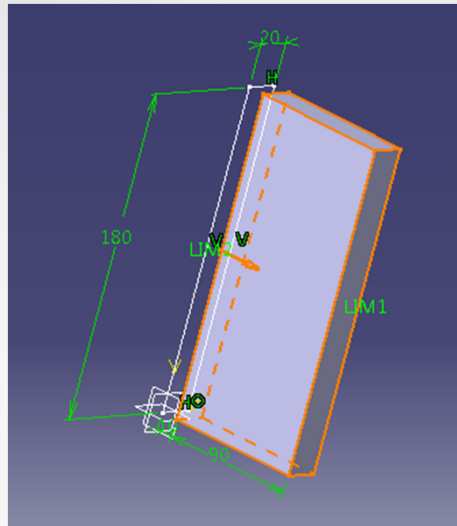
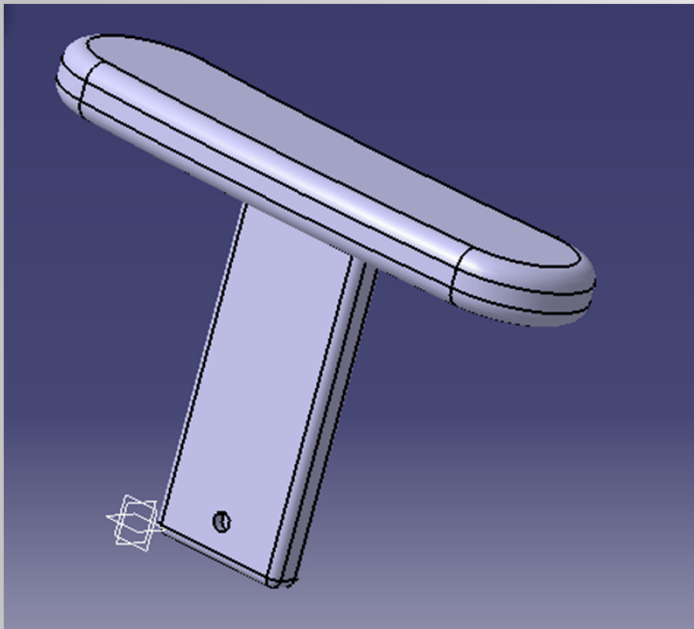
몸통



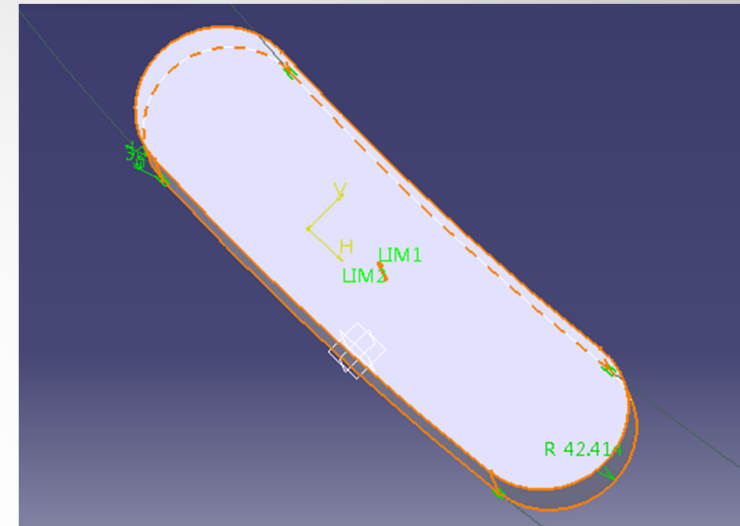
⑥ Pad + Pocket + Fillet + Hole

2. 모델링 과정

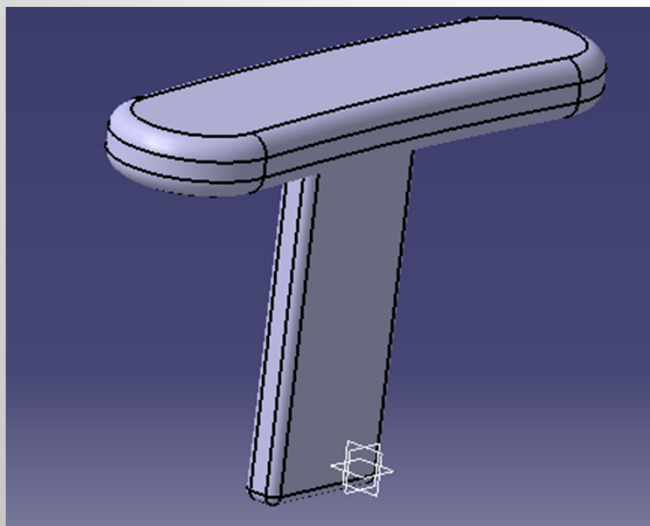
⑤ 팔걸이



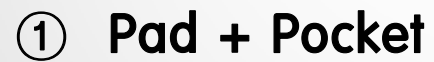
① Pad



② 원통형 연장된 홀로 스케치 후 Pad

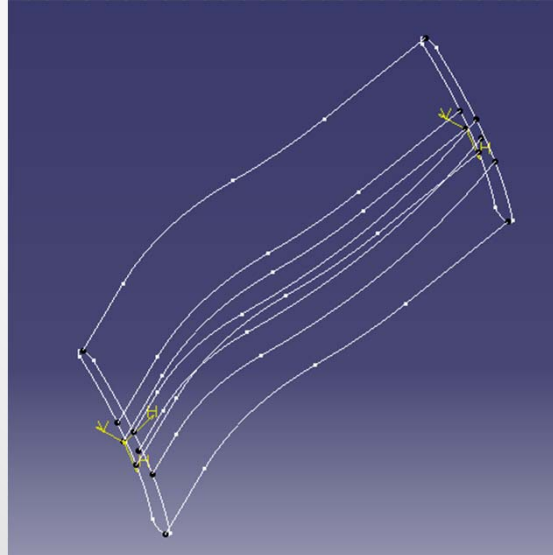
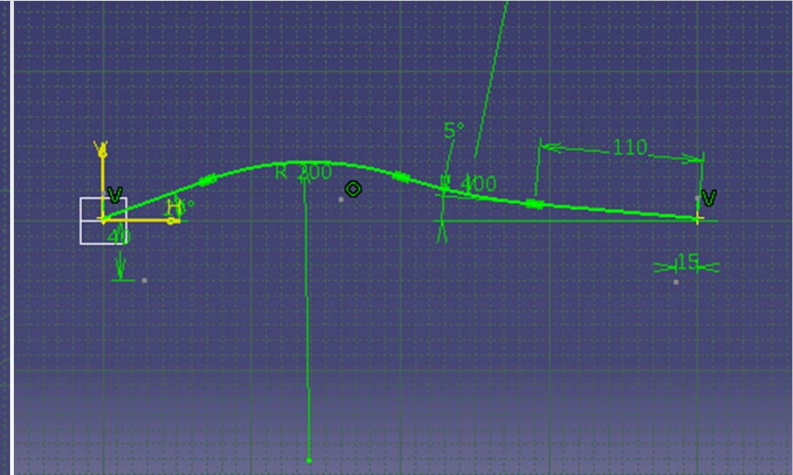
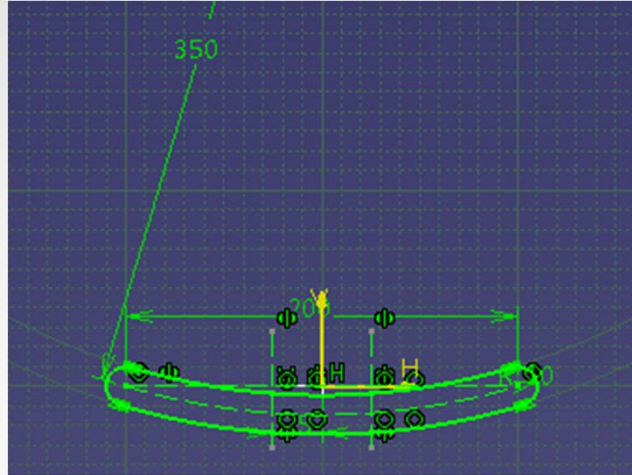
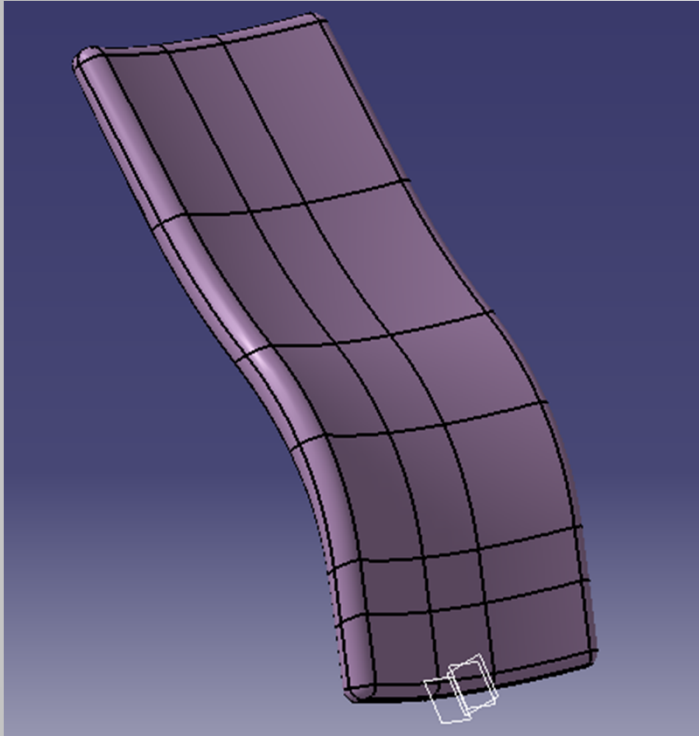


③ 부드럽게 Fillet



2. 모델링 과정

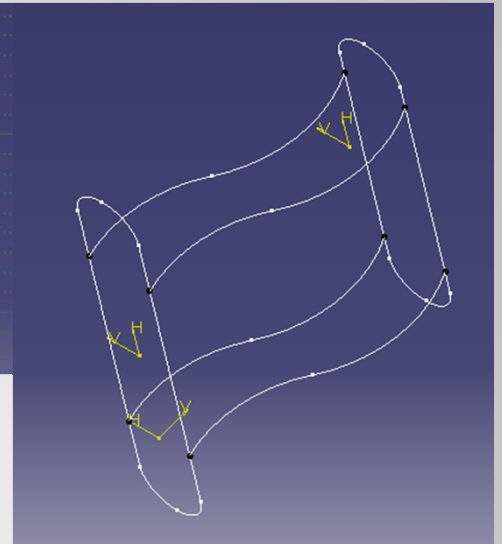
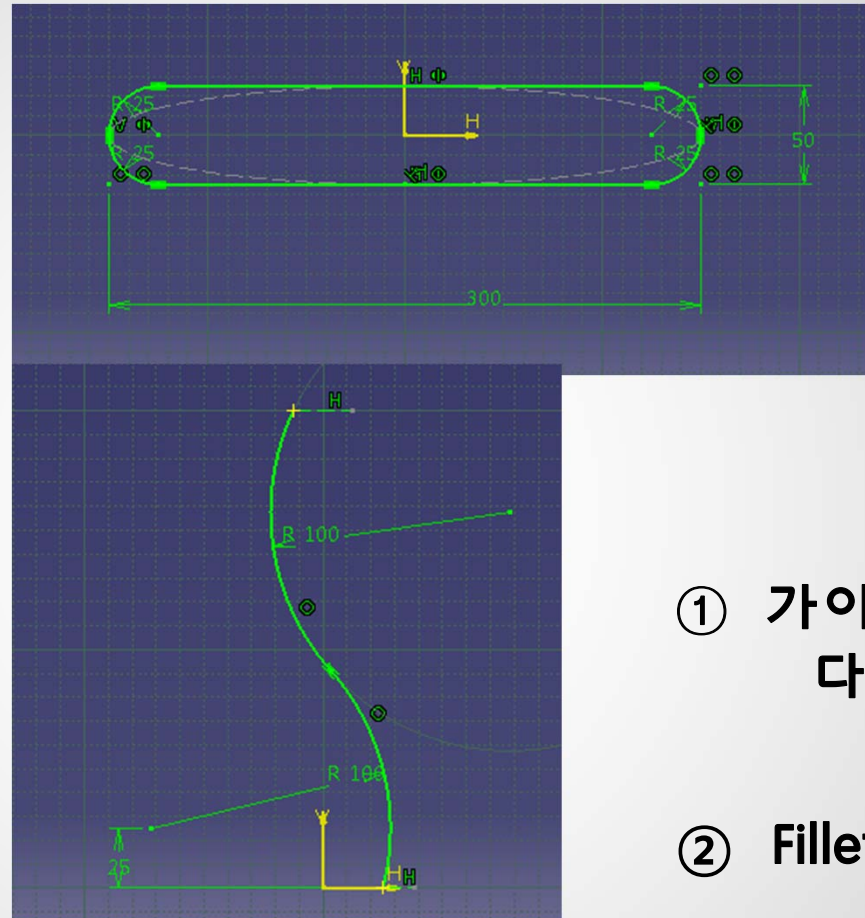
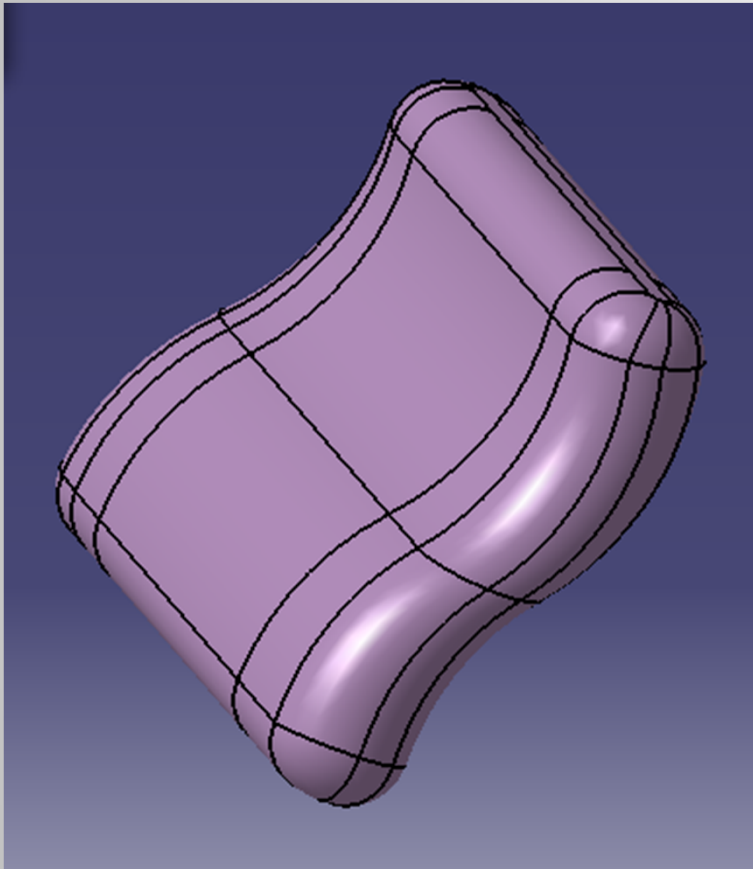
⑦ 등받이



① 가이드 라인을 이용한
다중단면볼륨

2. 모델링 과정

⑧ 머리받이

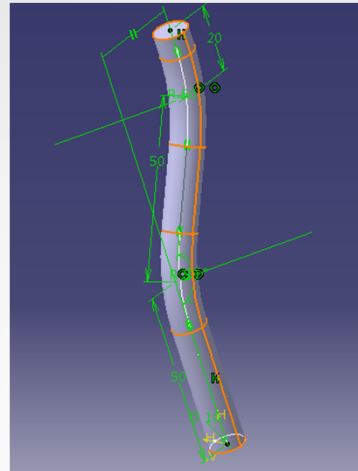
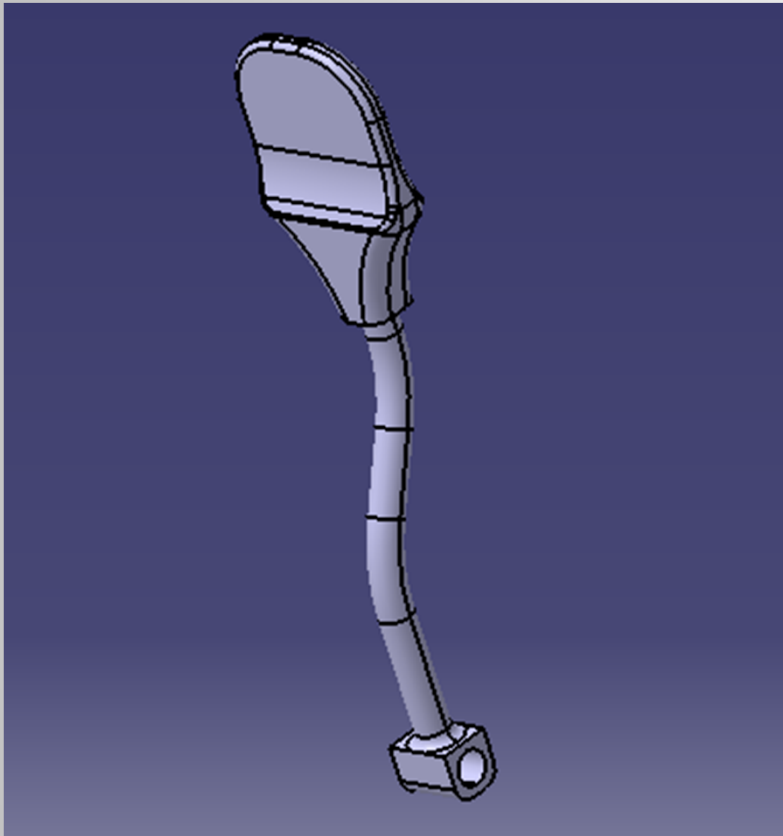


① 가이드라인을 이용한
다중단면볼륨

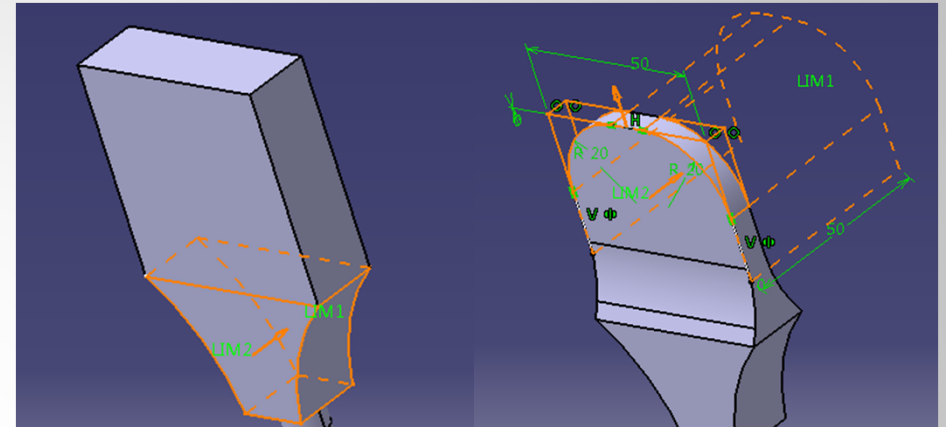
② Fillet

2. 모델링 과정

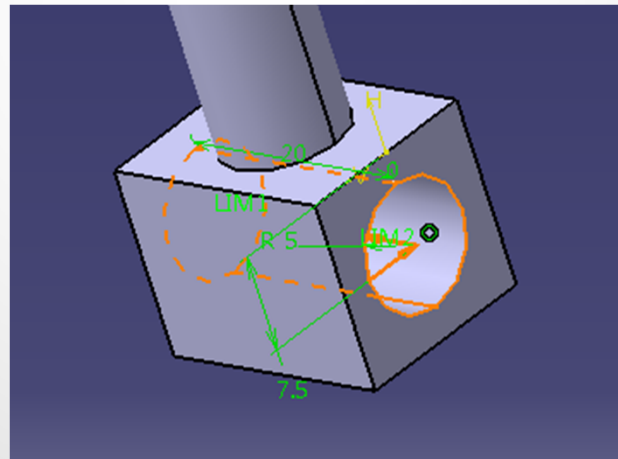
⑨ 레버



① Rib



② Pad + Pocket

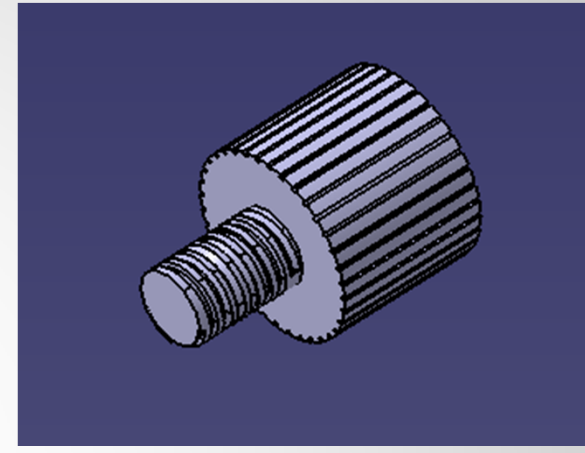
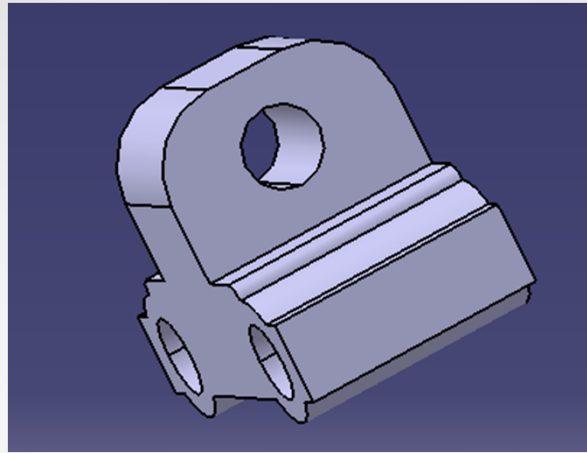
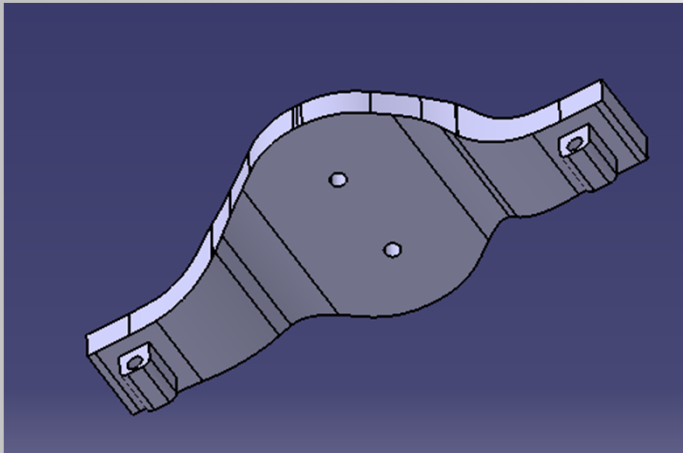


③ Pad + Hole

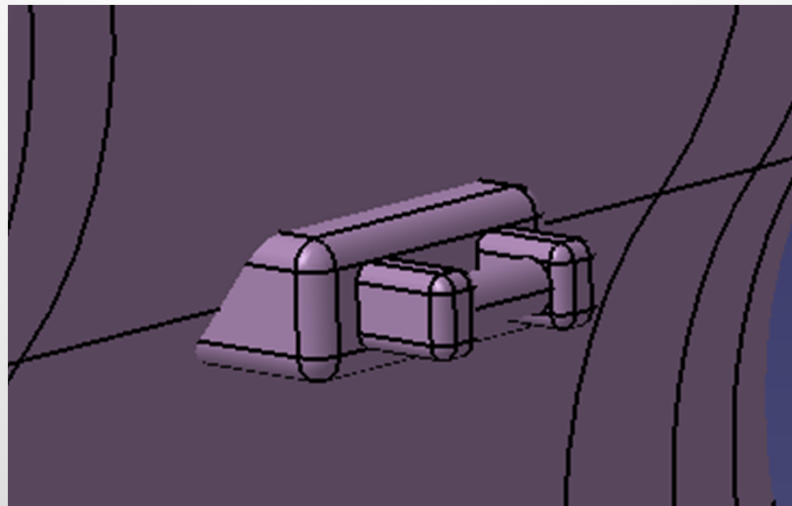
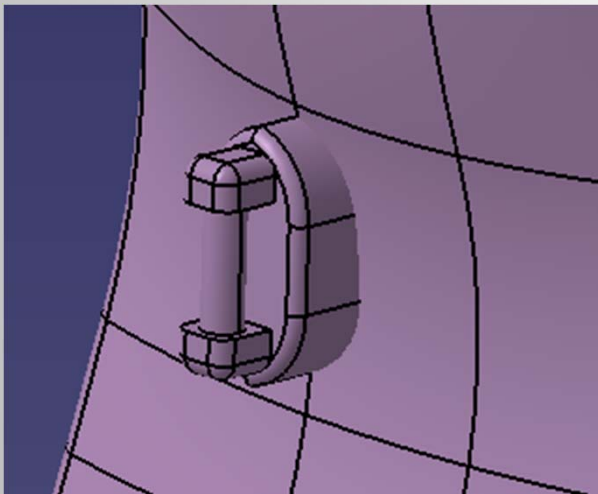
④ Fillet

2. 모델링 과정

⑩ 기타 부분들



그 외 의자의 각 파트들을 이어주기
위한 부분들

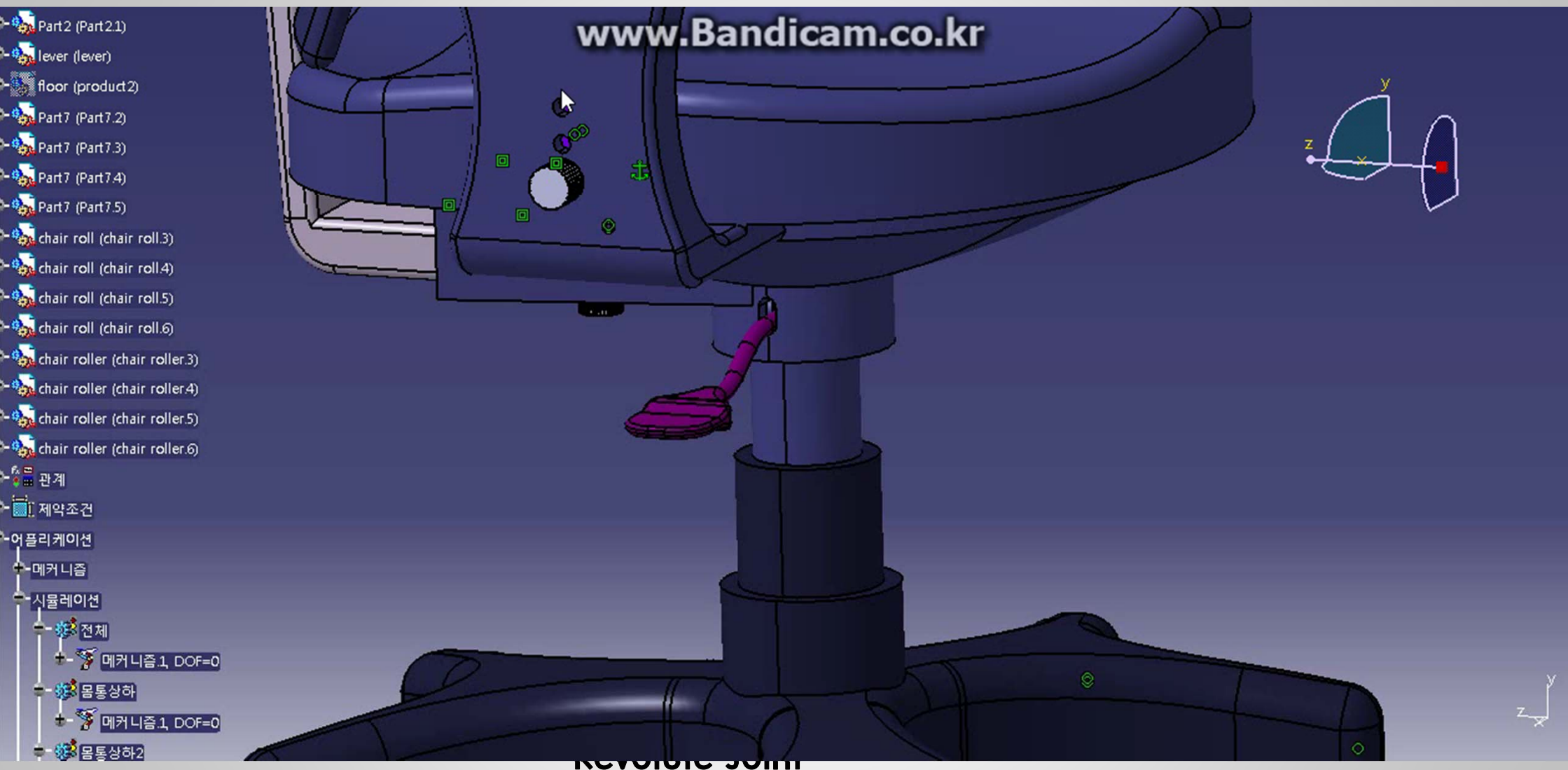


3. Kinematics 구현과정

III. Kinematics 구현과정

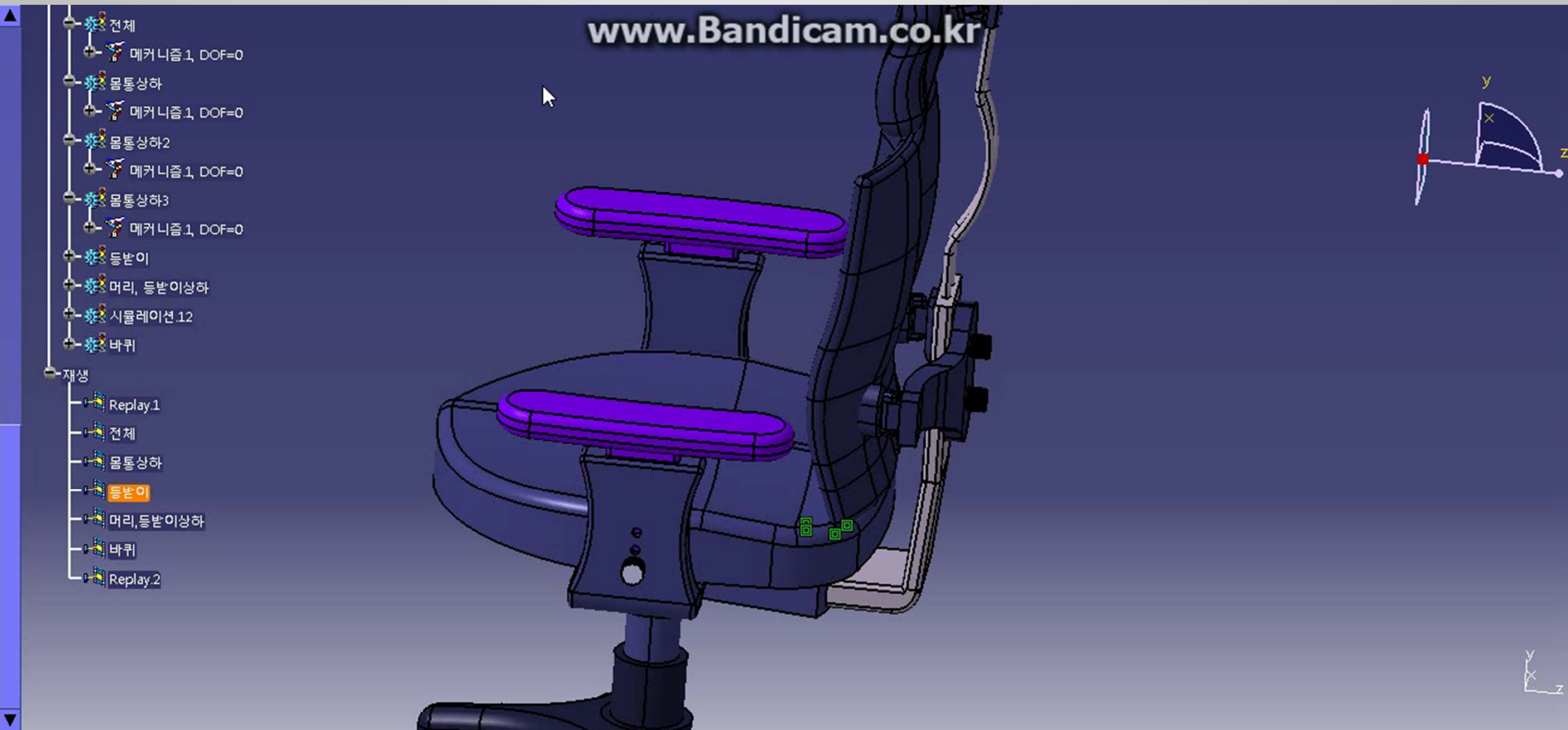
1. 의자 높이조절 및 회전
2. 등받이 위치조절 및 회전
3. 머리받침 높이조절 및 회전
4. 팔걸이 높이조절
5. 의자이동 (바퀴)

3. Kinematics 구현과정



Cylindrical Joint

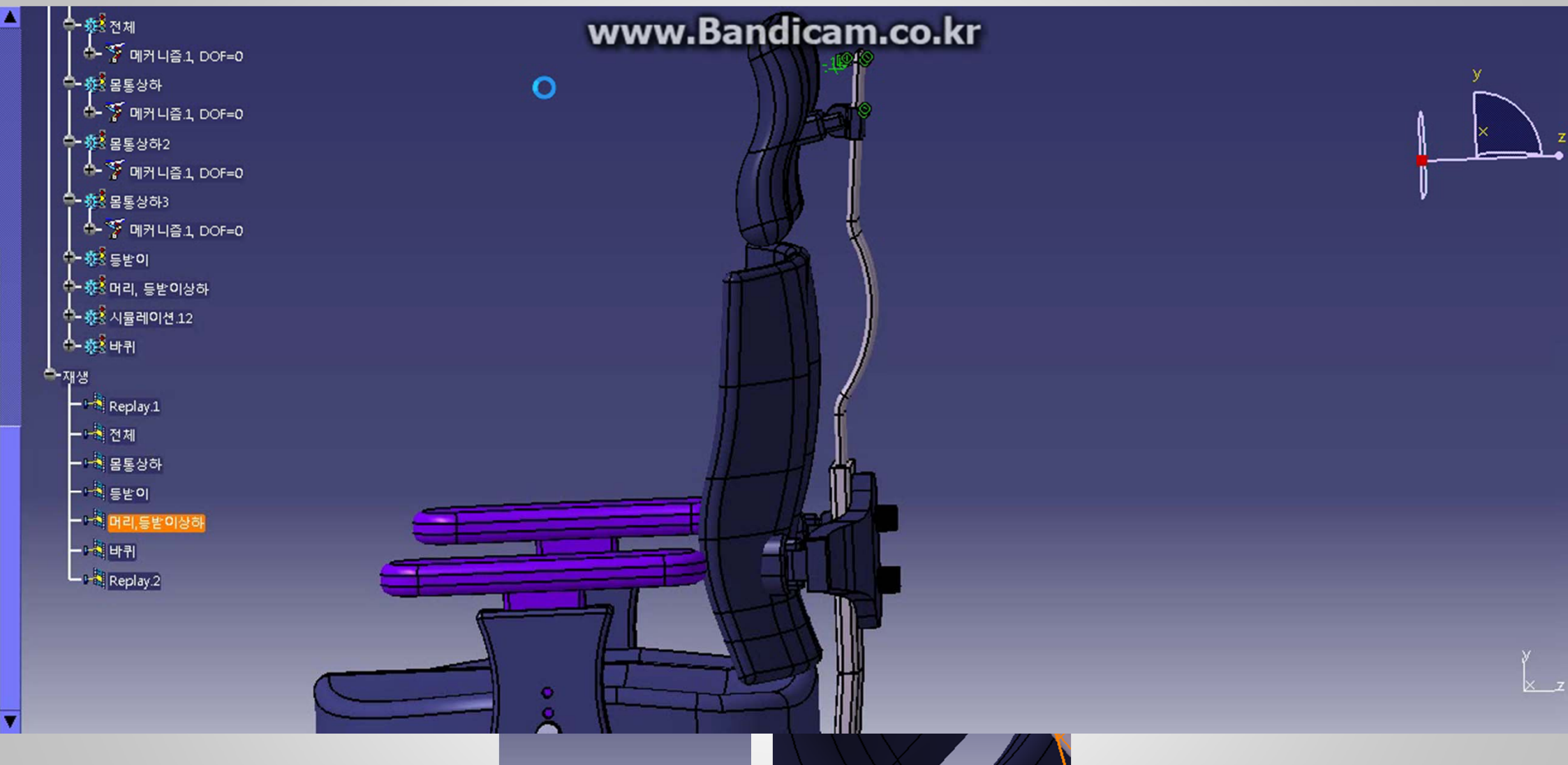
3. Kinematics 구현과정



Prismatic Joint

Revolute Joint

3. Kinematics 구현과정

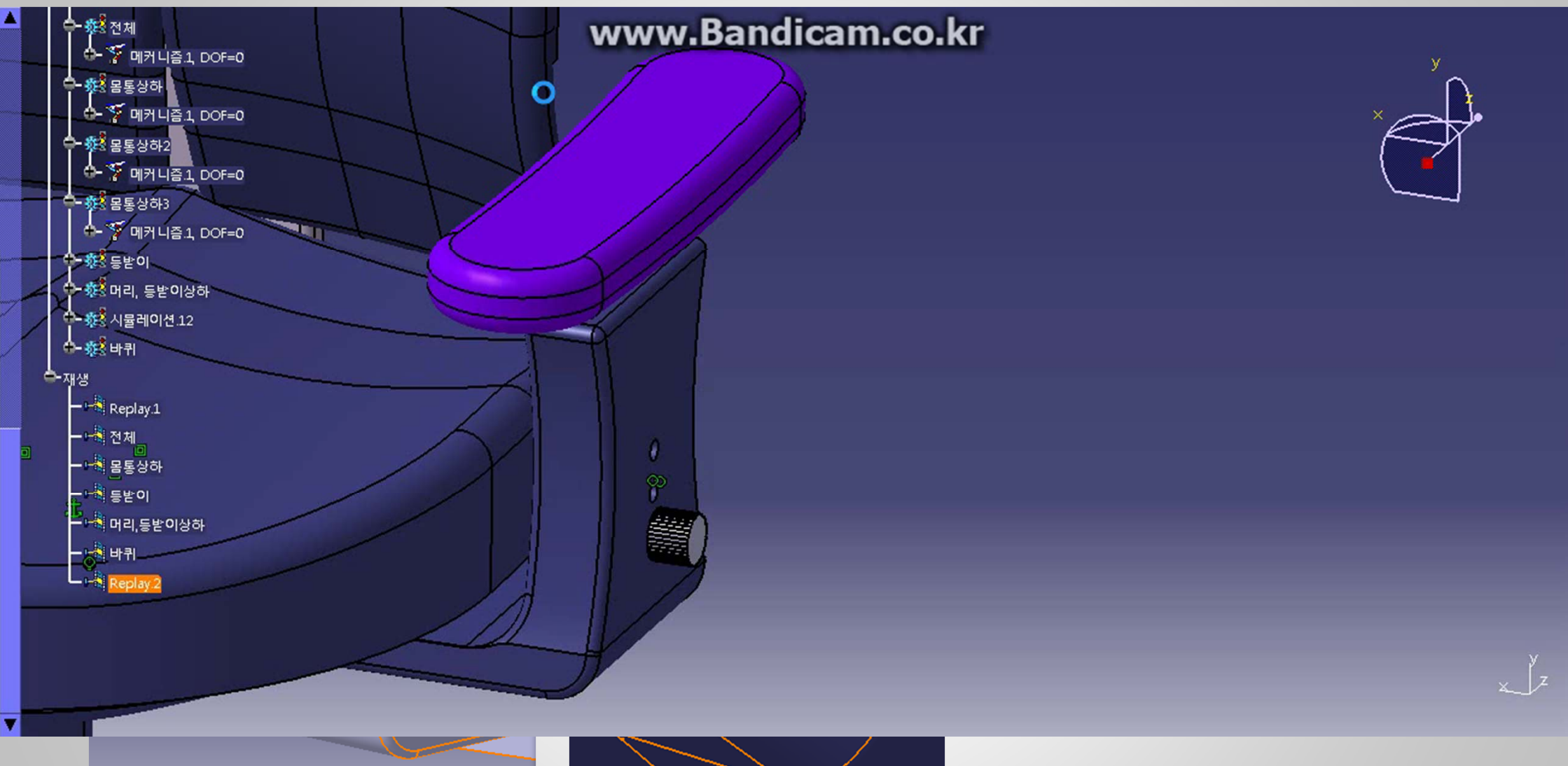


머리에 편하게 조절

Prismatic Joint

Cylindrical Joint

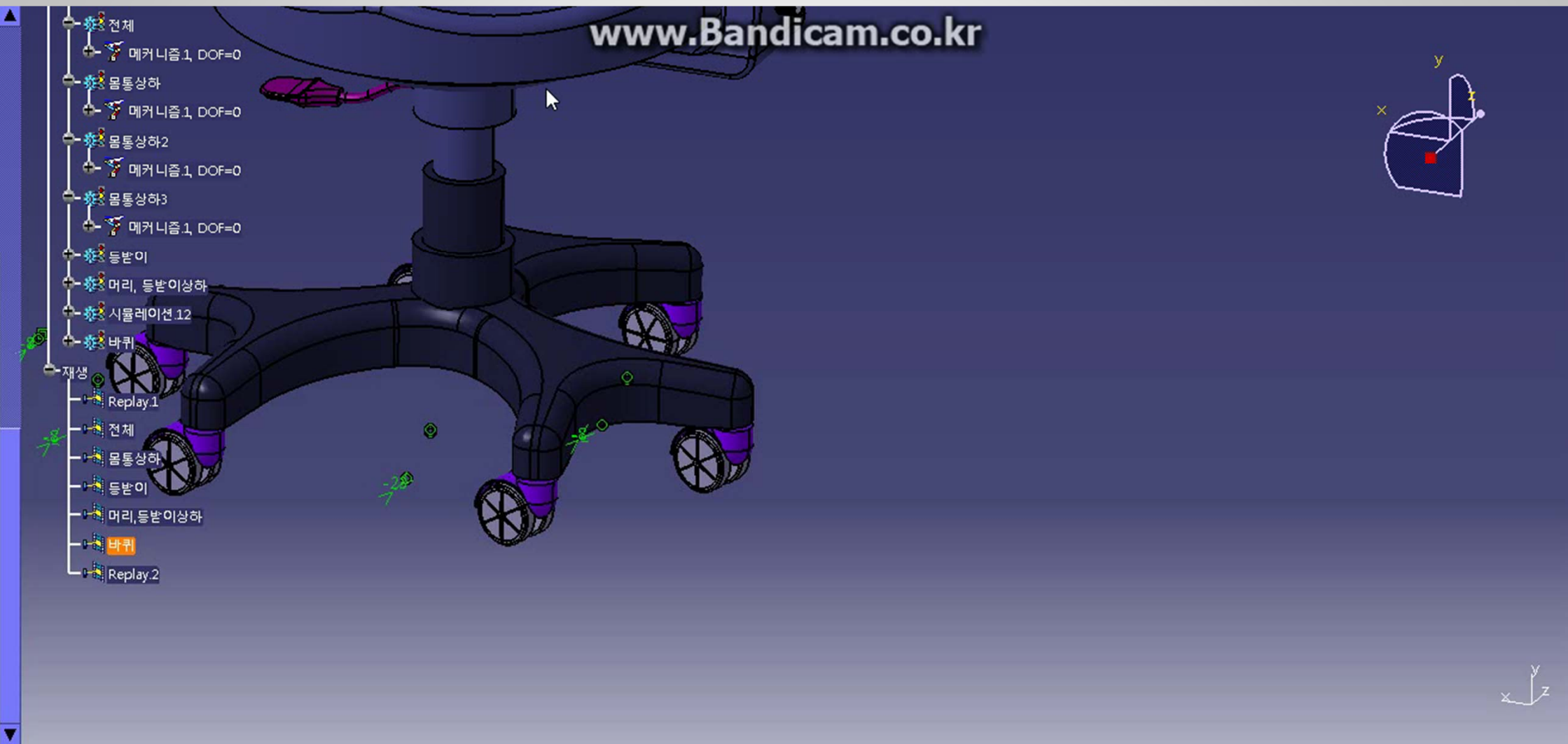
3. Kinematics 구현과정



Prismatic Joint

Revolute Joint

3. Kinematics 구현과정



3. Kinematics 구현과정

IV. 보완할 점

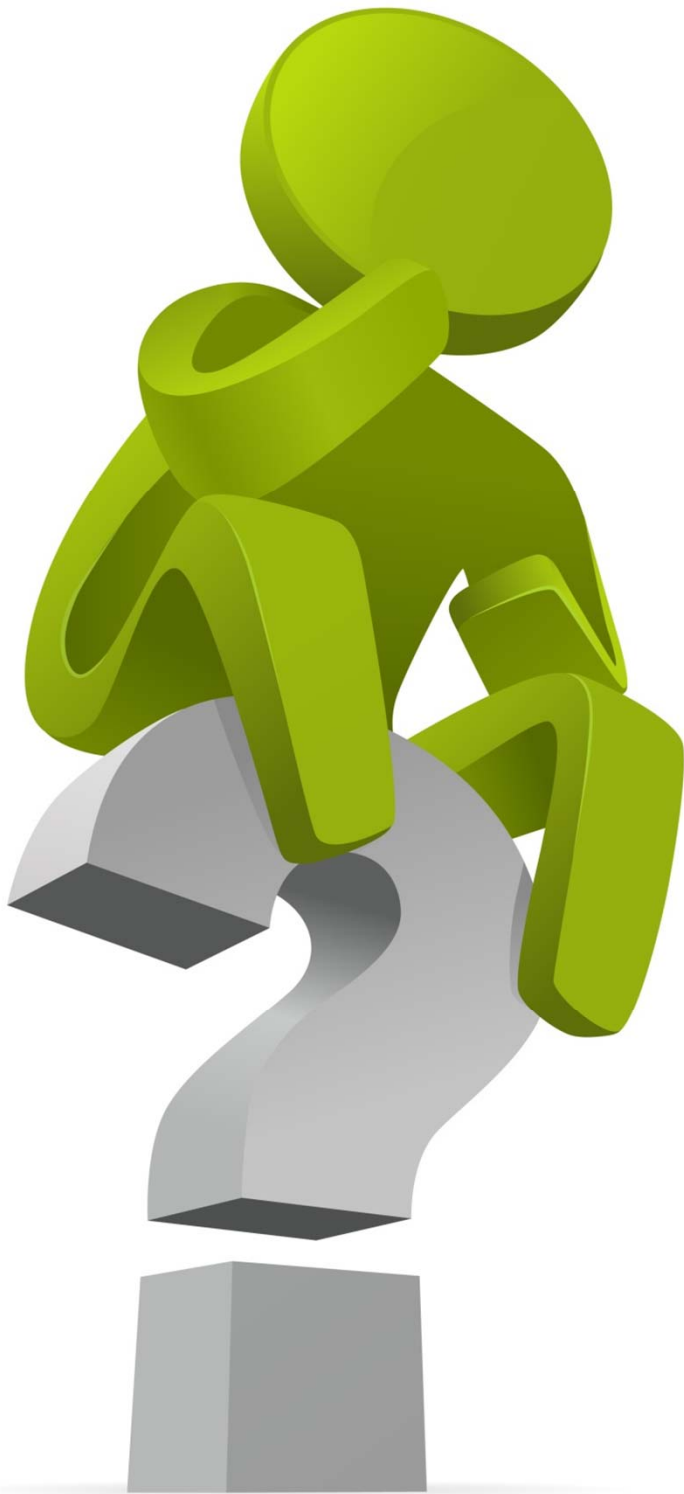


4. 보완할 점 및 느낀 점

보완할 점

- 레버의 움직임에 의한 의자 높이 조
- 등받이 움직임의 원리
- 바퀴의 자유로운 움직임





Question?

Thank you.