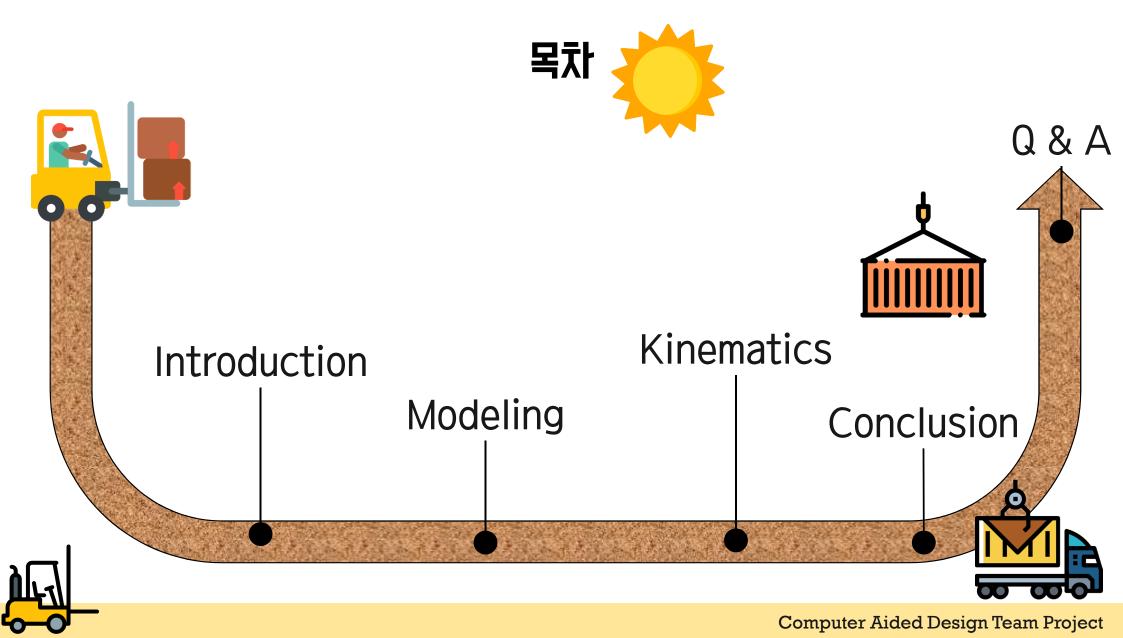
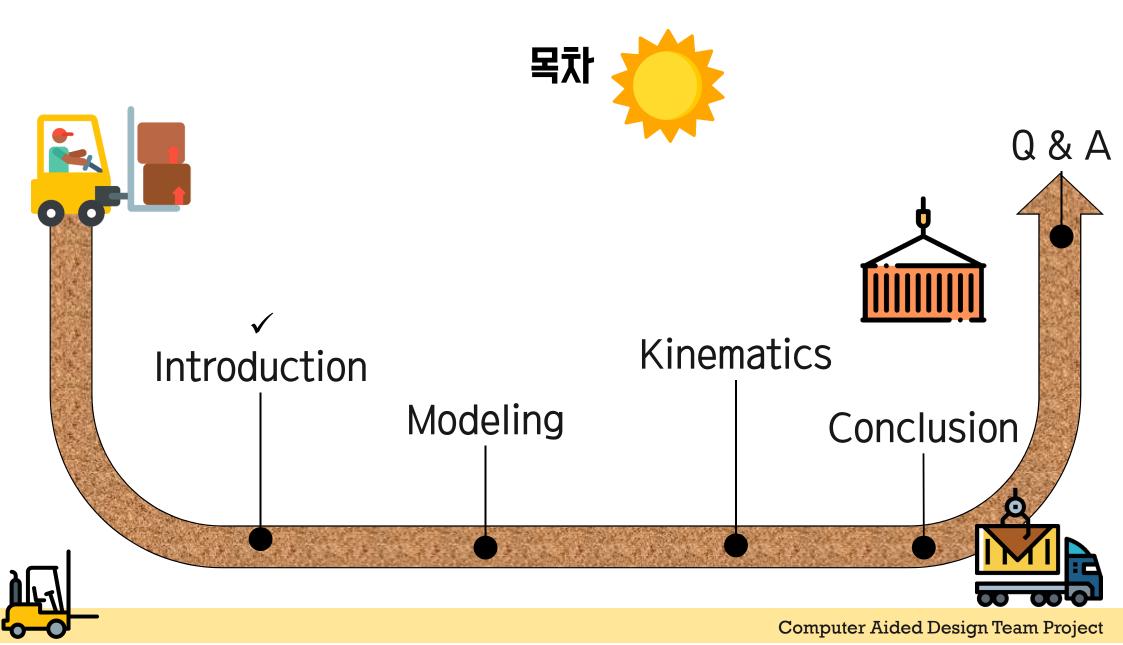
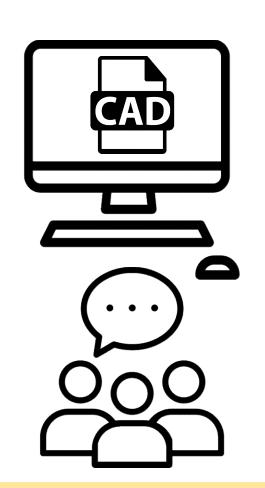


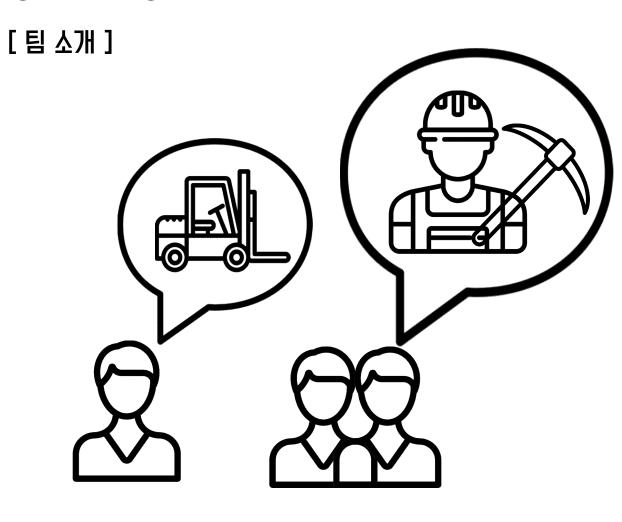
CAD Team Project Presentation

2016033590 박기수 2016033836 홍석현 2016033854 황진환



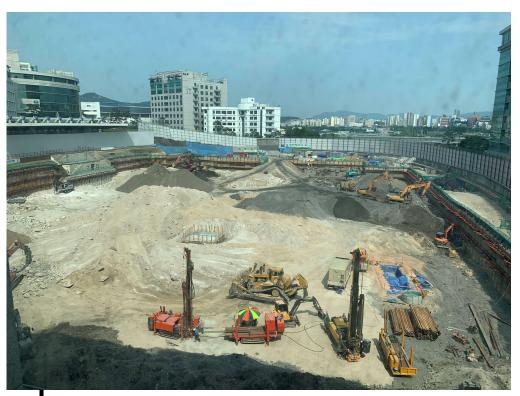


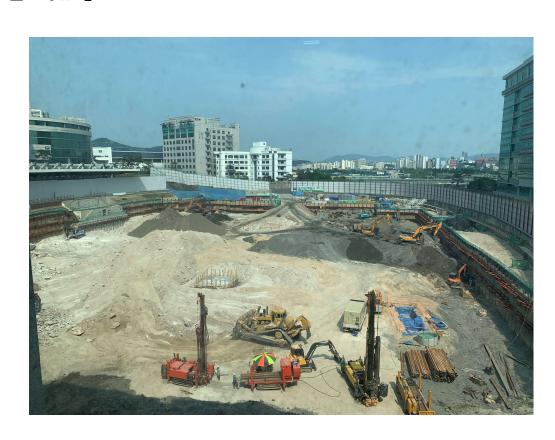






[주제 선정 이유]







[모델 선정]









[모델 선정 이유]

PART GSD

KINEMATICS

그 동안 배운 내용을 모두 활용

Part Design

Generative Shape Design

KINEMATICS

KINEMATICS에 집중하여 Project 진행



[역할 분담]

박기수 Part Design Assembly Design Kinematics Prensentation

喜석현 Part Design Assembly Design Kinematics Prensentation

황진할 Part Design Assembly Design Kinematics Prensentation

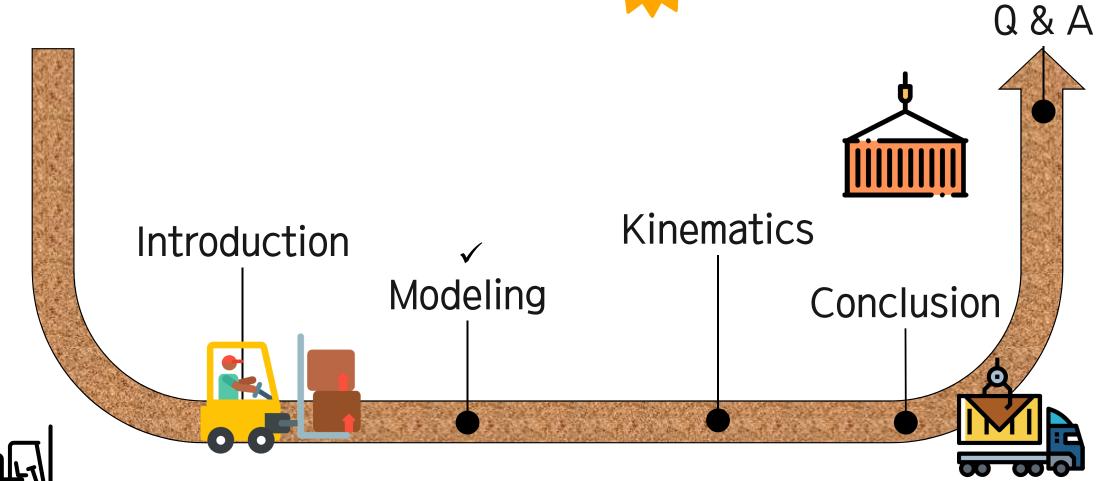


[설계 목표]

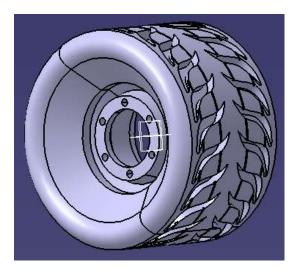








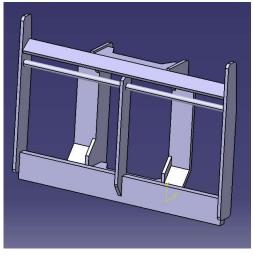
[Frame]





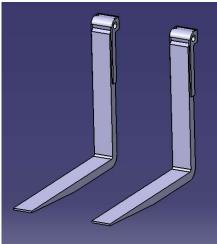


Fork Lift Tire





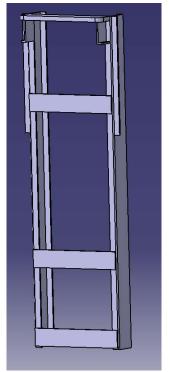
Fork Lift Frame

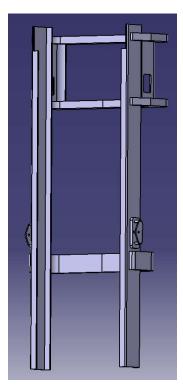


Fork

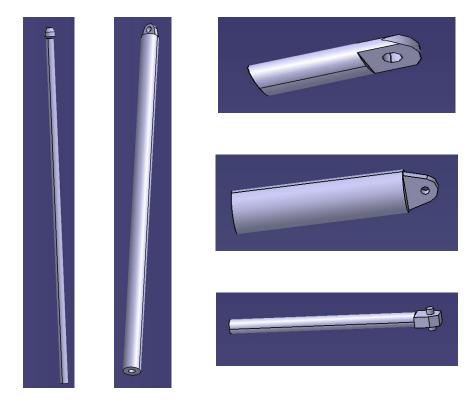


[Frame]









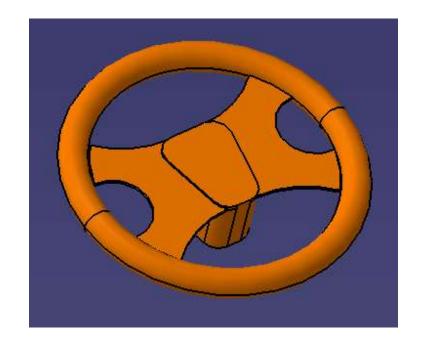
Cylinder arms, Heads



[Frame]



Fork Lift Seat



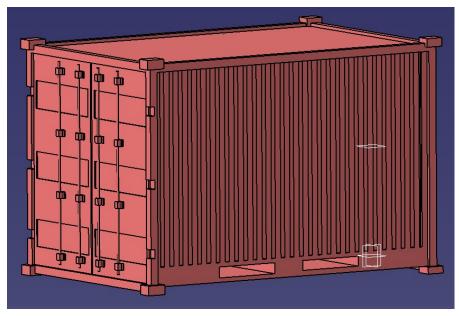
Truck Steering



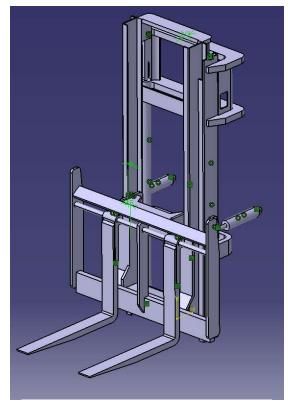
Truck Seat



[Shape]







Container

Fork Lift Body

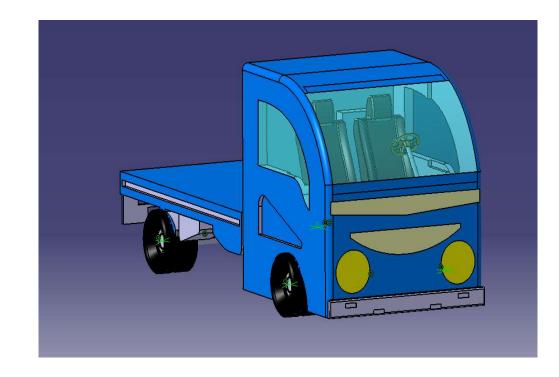
Fork Assemble



[Shape]







Truck Assemble



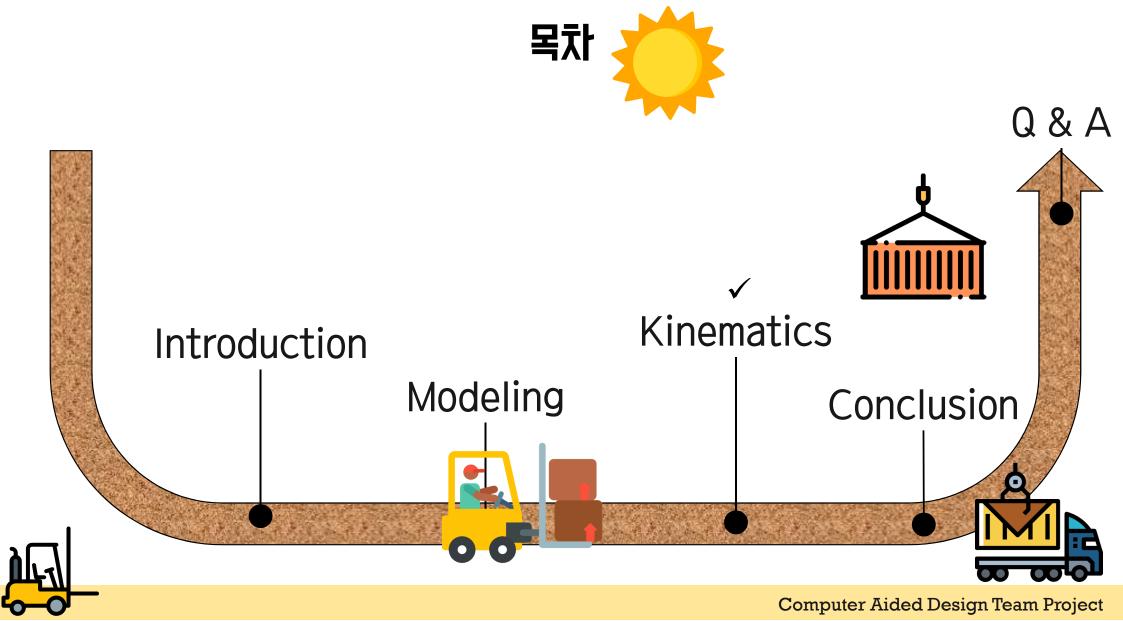
[Constraints]

- Constraints - 🍂 Offset.82 (Part1.3.1.Part1.1.3.1) Surface contact.84 (Part1.4.2.Part1.1) - 🗊 Surface contact.93 (Part1.4.1,Part1.1) Coincidence.94 (Part1.2.2,Part1.1.3.1) - 🗊 Surface contact.95 (Part1.2.2,Part1.1.3.1) – 🥰 Coincidence.99 (Part1.4.5.1,Part1.3.1) Surface contact.100 (Part1.4.5.1,Part1.3.1) – 🥰 Coincidence.101 (Part1.4.5.2,Part1.3.1) Surface contact.102 (Part1.4.5.2,Part1.3.1) Coincidence.103 (Part1.1.5.2,Part1.4.5.1) − 🏂 Offset.105 (Part1.3.1,Part1.1.5.2) - 🥰 Coincidence.106 (Part1.1.5.1,Part1.4.5.2) – 🏂 Offset.107 (Part1.3.1,Part1.1.5.1) Coincidence.108 (Part4.1,Part3.1) Coincidence.109 (Part4.2,Part3.1) − 🎒 Offset.110 (Part4.1,Part3.1) – 🏂 Offset.111 (Part4.2,Part3.1) - 🗊 Surface contact.115 (Part4.2,Part3.1) - 🗊 Surface contact.116 (Part4.1,Part3.1) Surface contact.128 (Part13.1,Part1.1) 🕩 Surface contact.129 (Part13.2,Part1.1) Surface contact.132 (Part13.1,Part1.1.5.2) Surface contact.134 (Part13.2,Part1.1.5.1) Offset.135 (Part1.3.1,Part1.1.3.1)
- Fix.139 (Part13.2) Coincidence.140 (Part1.1.2.1,Part1.1) Surface contact.141 (Part1.1.2.1.Part1.1) Surface contact.143 (Part1.3.Part1.1) · 🕰 Coincidence.144 (Part1.1.1.Part1.1) Coincidence.145 (Part1.1.2,Part1.1) Surface contact.146 (Part1.1.1.Part1.1) Surface contact.158 (Part1.1,Part2.1) Coincidence.162 (Part1.1.Part1.4.1) 🌮 Offset.163 (Part1.1.Part1.4.1) Coincidence.164 (Part1.1.Part1.4.2) Offset.165 (Part1.1.Part1.4.2) Coincidence.166 (Part1.1.5.2.Part13.1) Offset,172 (Part1,2,2,Part1,1,3,1) Coincidence.174 (Part1.2.1.Part1.1.3.1) Offset,175 (Part1,2,1,Part1,1,3,1) FixTogether.2(Part1.4.1,Part1.4.2) Fix.178 (Part3.1)
- Coincidence.179 (Part4.2.Part3.1) Coincidence.181 (Part3.1,Part4.1) Fix.187 (Part1.3.1) − 🥝 Fi×Together.15(Part4.1,Part3.1,Part4.2) Coincidence.193 (Part14.1,Part1.1) Offset.194 (Part14.1, Part1.1) Offset.200 (Part1.3, Part15.1) Offset,201 (Part1,3,Part15,1) Offset.203 (Part1.3,Part15.1) Offset.204 (Part1.1,Part15.1) Fix.205 (Part15.1) - 🏂 Offset.209 (Part1.1.2,Part1.1) Coincidence, 211 (Part 1.1, Part 1.3) 🏂 Offset.212 (Part1.1,Part1.3) Coincidence.213 (Part1.1.2,Part1.1) -Q FixTogether.25(Part1.3,Part1.1.2.1) - 🖉 FixTogether.26(Part1.1.2,Part1.1.1) \mathscr{Q} FixTogether.27(Part1.1.3.1,Part1.1,Part1.3.1 🌮 Offset.214 (Part1.4.1,Part1.1) Coincidence.215 (Part1.3.1,Part3.1) 🥰 Coincidence.216 (Part1.3.1,Part3.1)

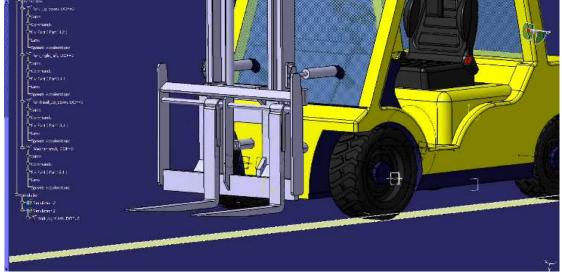












Fork Head Up & Down

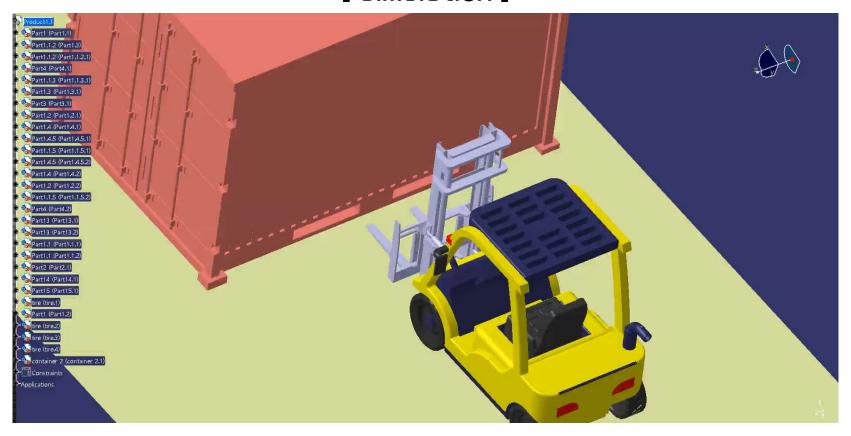
Fork Left & Right



```
4 Simulation 2
```

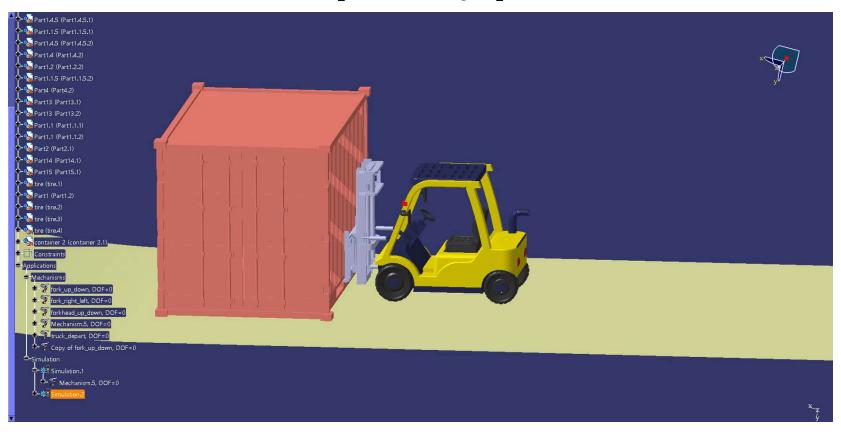


Fork lifting & Up & Down





Fork lift Moving With Container



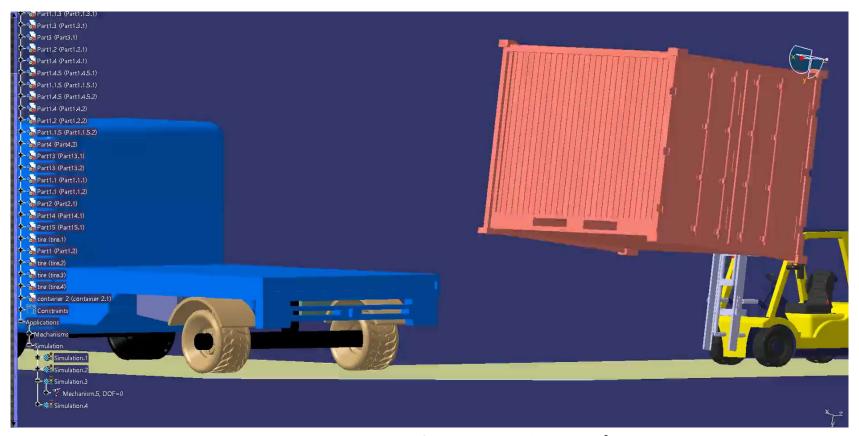


Fork Lifting up





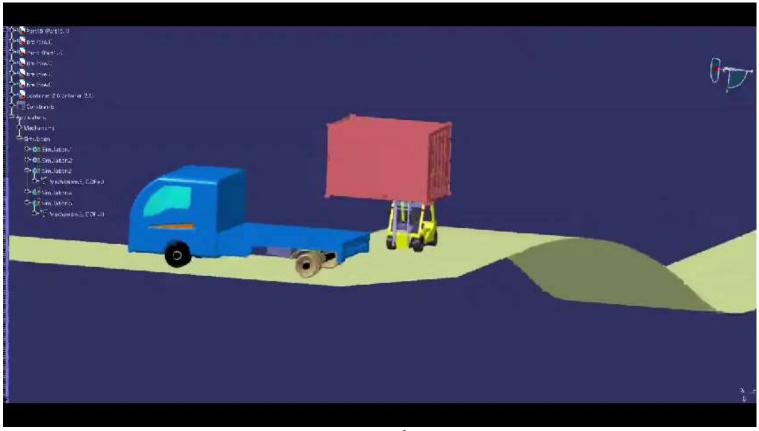
Arrived to Truck





Prepare To Put On The Container

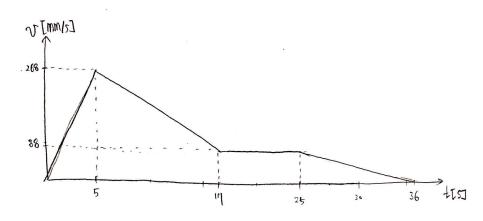
[Simulation]





Put Down The Container To The Truck

[Simulation-With Formula]



$$0 \sim 5 \pm : 4970 \text{mm} - \frac{1}{2} \times \frac{260 \text{mm/s}}{55} \times (5s)^2$$

$$5^{-172}$$
: $4300_{\text{mm}} - \left(\frac{1}{2} \times \frac{[86-268] \text{mm/s}}{125} \times (125)^2 + (268 \text{mm/s}) \times (125)\right)$



3583426 1349mm - $\left\{ \frac{1}{2} \times \frac{-88mb}{100} \times (10)^2 + (88mb) \times (10) \right\}$ CamScanner



[Simulation-With Formula]







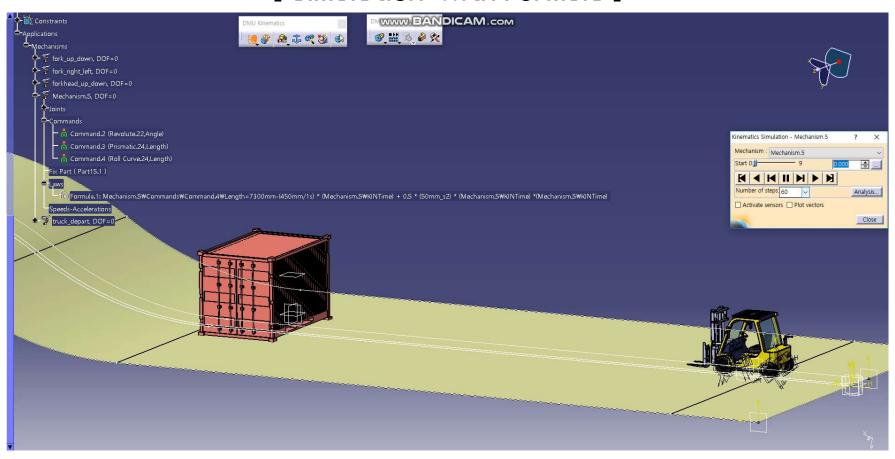
[Simulation-With Formula]







[Simulation-With Formula]





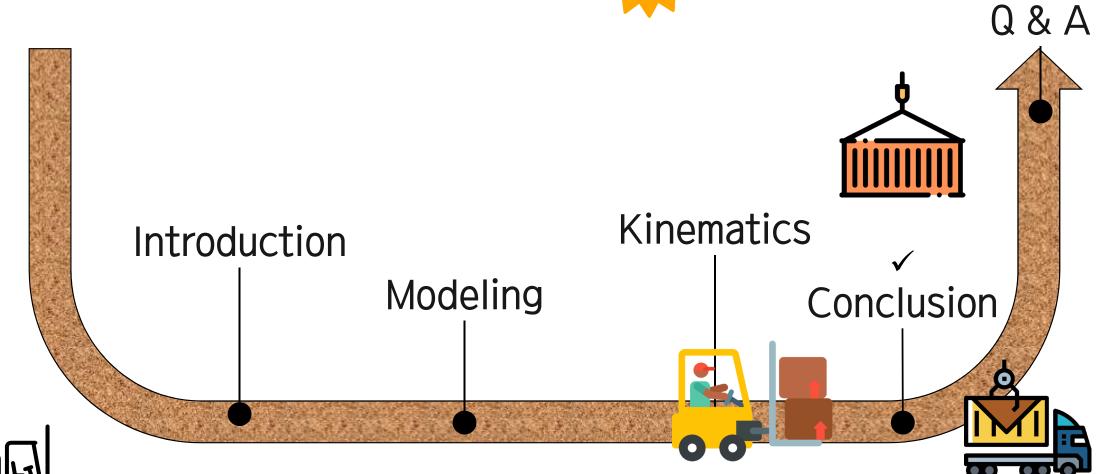
[Full Result]

https://www.youtube.com/watch?v=RgqMYt6C6uk







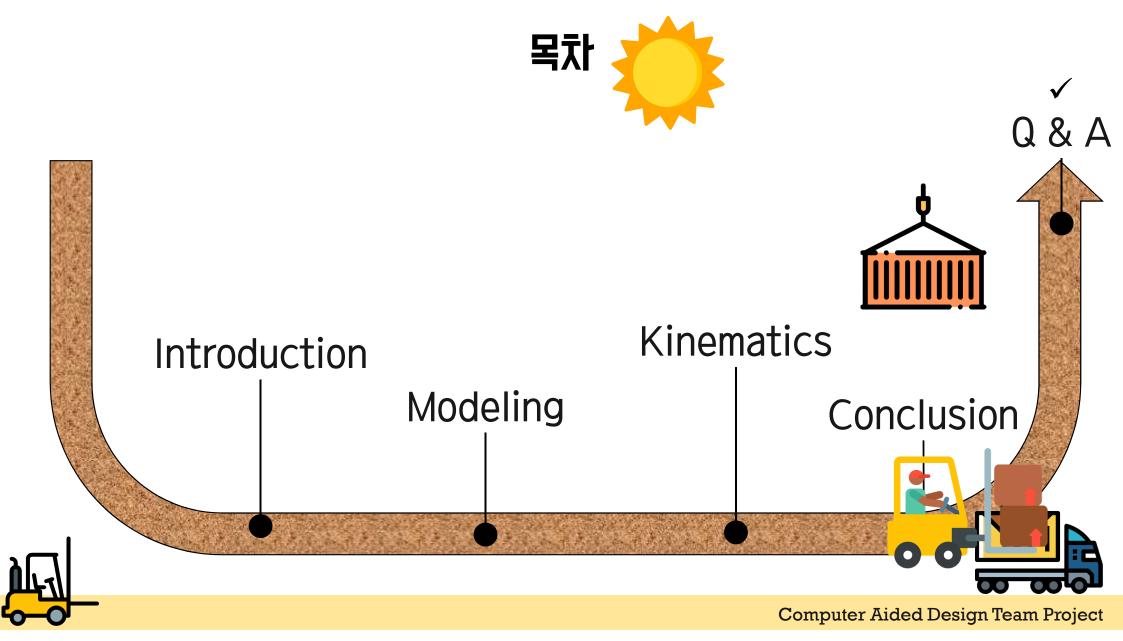


Conclusion

[Project를 진행하면서 느낀 점]

- (나) 스케일의 사용이 예상보다 사용할 수 있는 부분이 거의 없었음.
- 마 가속도가 변할 때 하나의 함수로 표현이 불가함.
- (의) Assembly에서 잡은 Constraints가 Kinematics를 실행하면서 구속 조건이 변화할 수 있음.
- (上) 영상과 기뮬레이션에서의 프레임이 많이 깨지면서 우리가 설정한 함수의 모습을 보여주지 못함.





A&D





