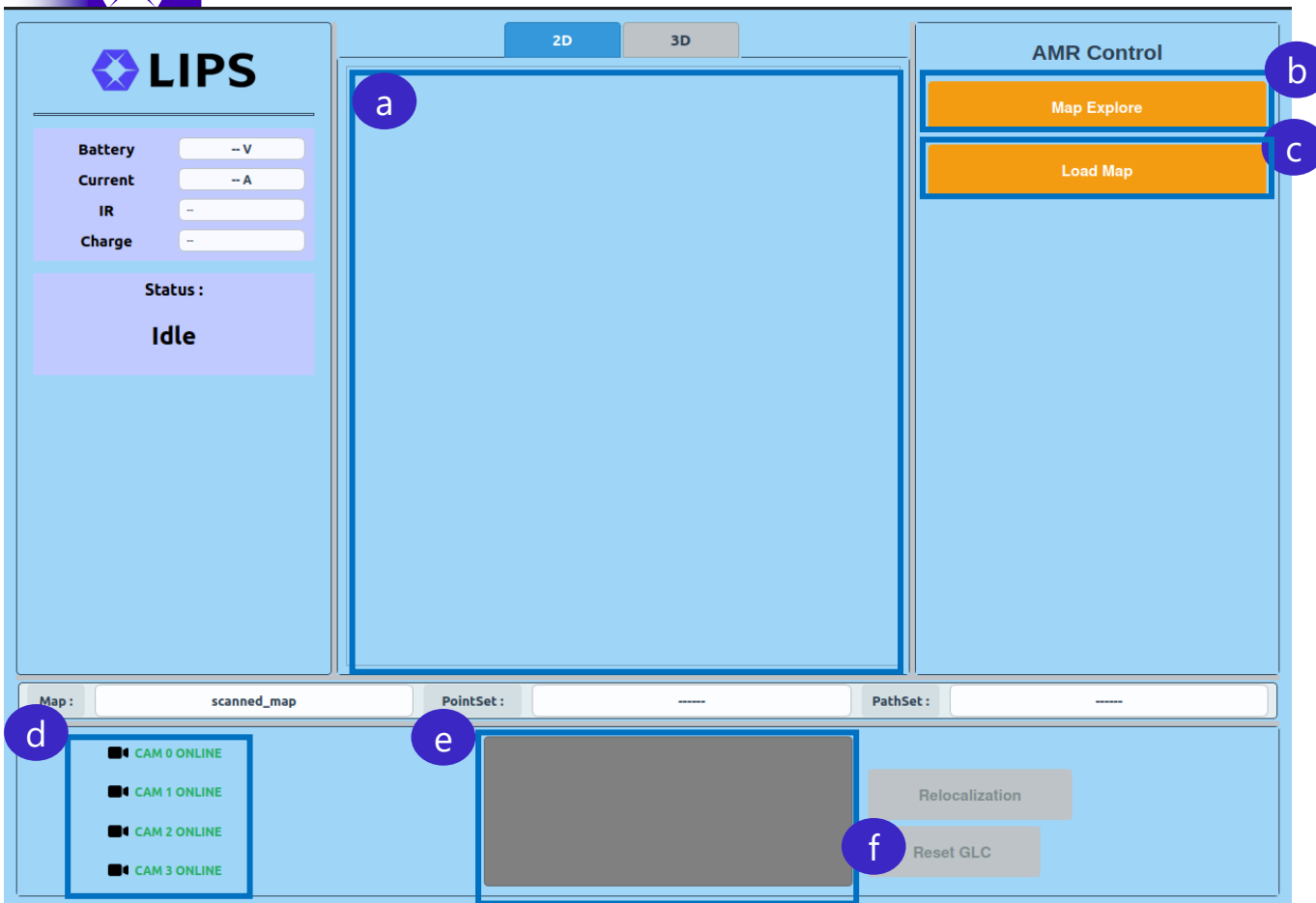




APP User Guide



APP Introduction



a.) Map Preview:

The window will show the map and coordinates of PDK4 device when you perform mapping or localization.

b.) Map Explore:

Start Mapping

c.) Load Map:

Load the map, which the users built.

d.) Camera Status:

Once users perform mapping or localization, the camera status will be displayed here.

e.) Loop Closure Status:

This Function is triggered passively. Once the window turns green, it means that the loop closure has been triggered. It will corrects the accumulated drift once the function has been triggered.

f.) Reset GLC(Global Loop Closure):

The button will be available when GLC has been triggered.

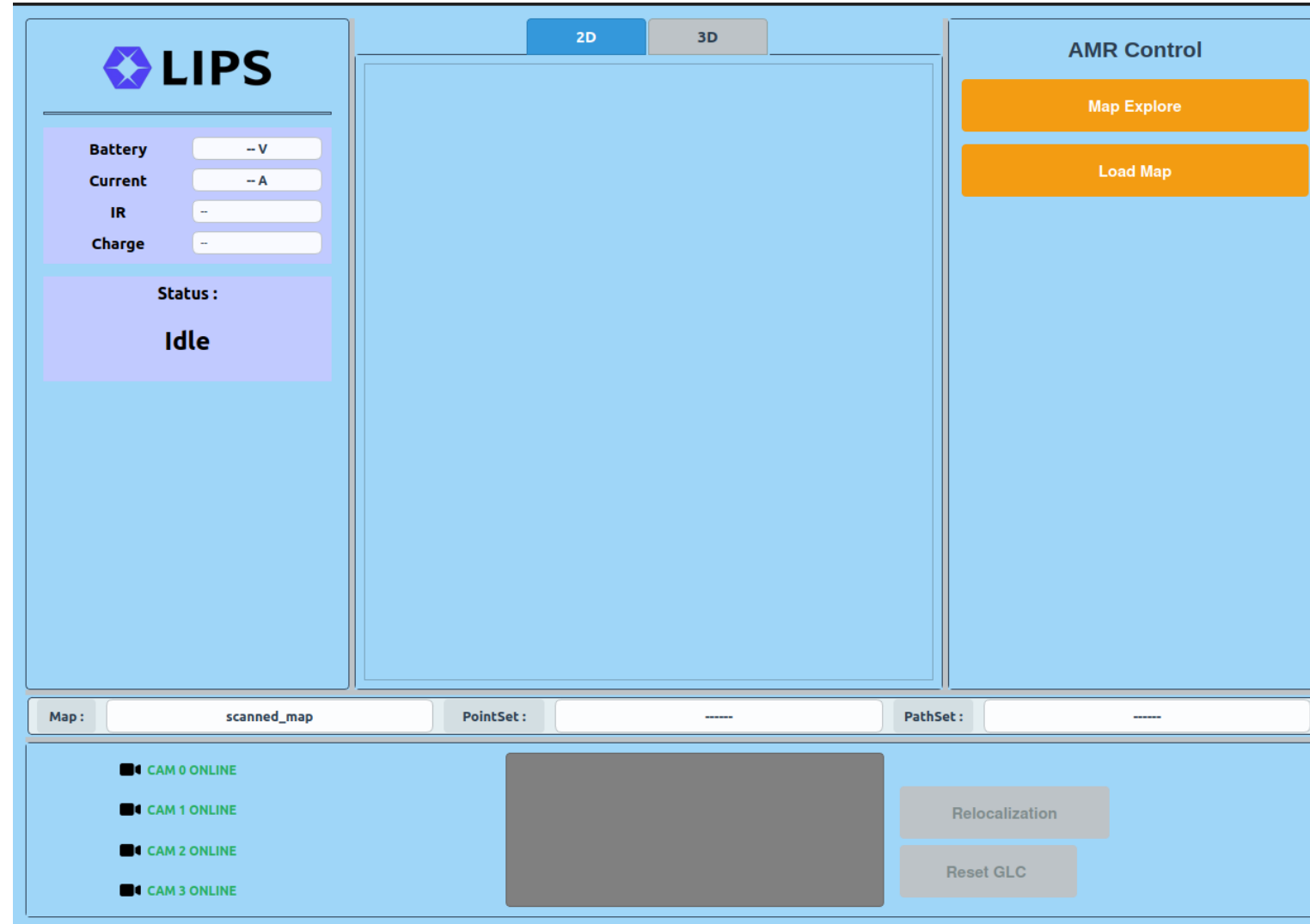




Step1: Open the APP

1. Open a terminal, and enter:
 - a.) `cd ~`
 - b.) `./AMRapp/build/amr_application`

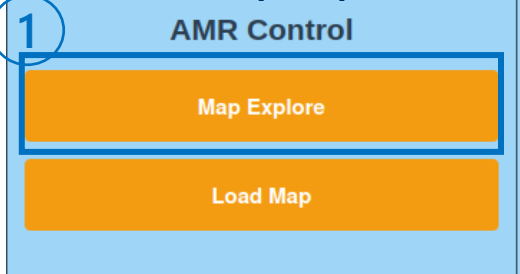
2. The APP will be displayed as follows:



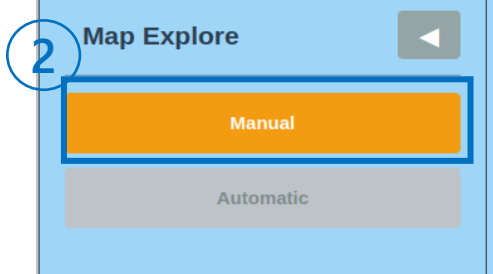


Step2: Mapping Session(1/2)

Click Map Explore

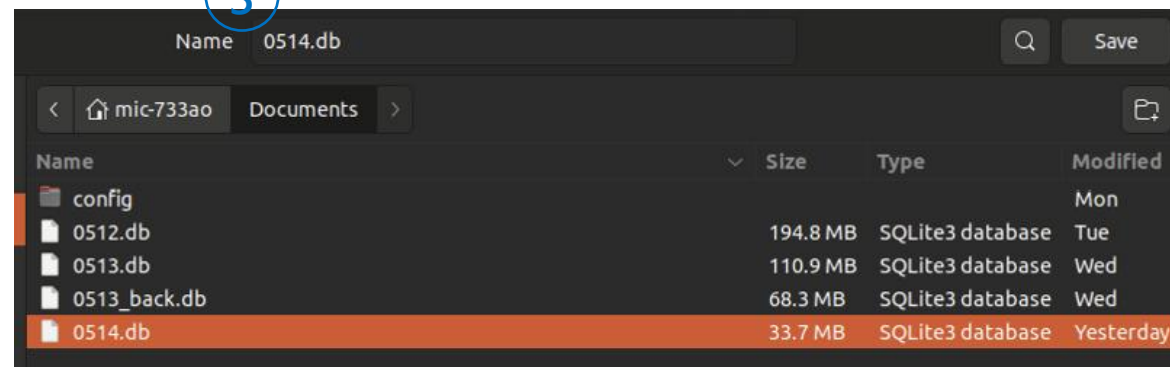


Click Manual



3

Select a save location.

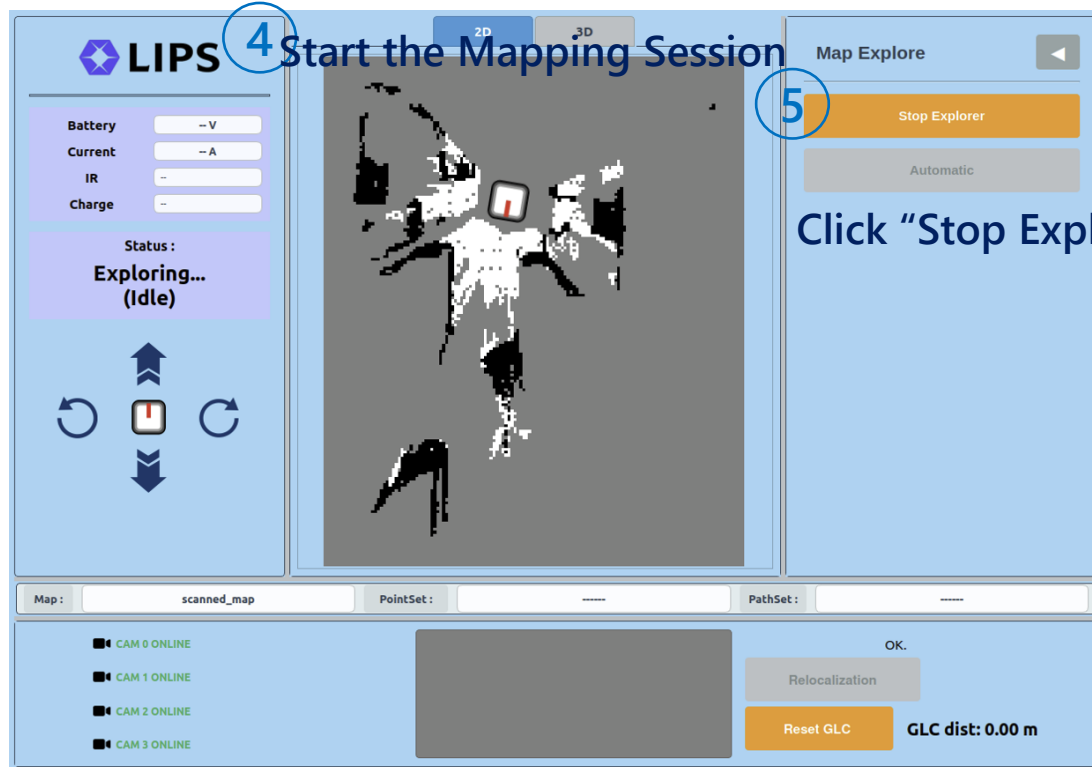


4

Start the Mapping Session

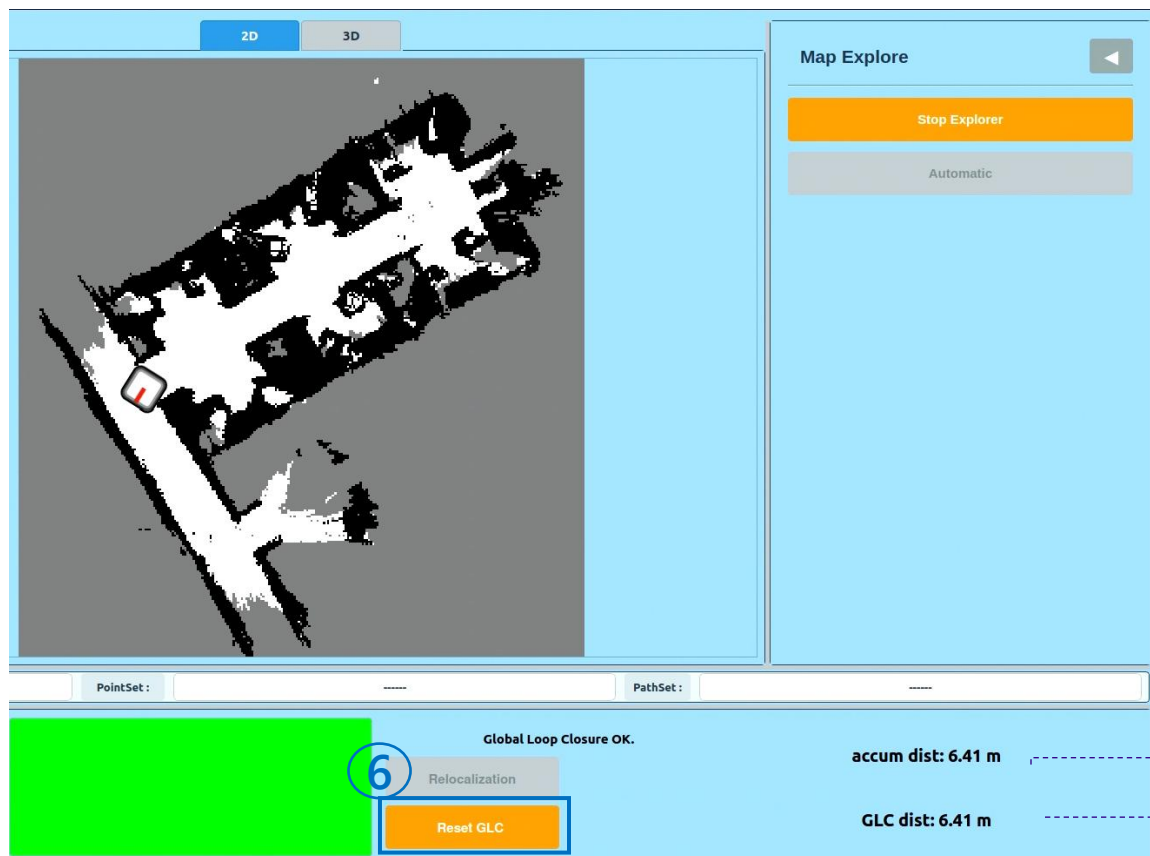
5

Click "Stop Explore" when the user finish the mapping session.





Step2: Mapping Session(2/2)



6. GLC Function & Status:

Accum. dist → Accumulated Distance

The accumulated distance starts counting when the PDK4 moves at the start point.

GLC dist → GLC Distance

Display the distance between the PDK4 and start point.

Reset GLC

When the Reset GLC Button is available, it means that the PDK goes back to the start point.

*If the user wants to continue the mapping session, the user could move the PDK4 to the new start point and trigger the Reset GLC button. The value of Accum. Dist & GLC dist will be reset to zero when the user triggers the button.

The Reset GLC button will be unavailable until the AMR returns to the start point.

Guide Video: [Mapping Session Guide](#)

Loop Closure Guide Video: [Loop Closure Video Guide](#)





Step3: Load Map

Click Map Load Map

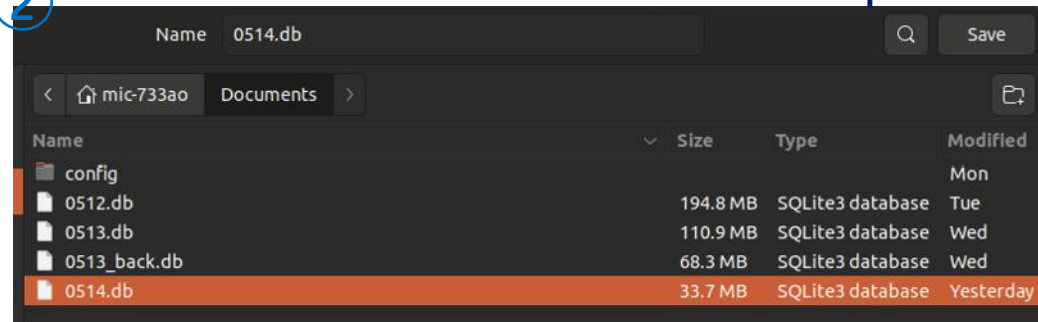
AMR Control

Map Explore

Load Map

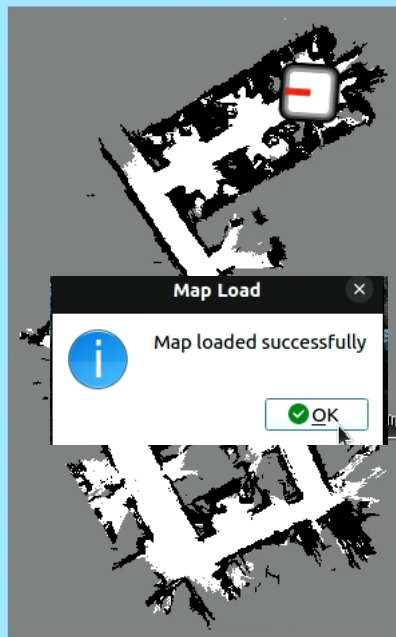
Select the address to load the map.

2



3

Click ok



4

The User can perform the localization in the map.



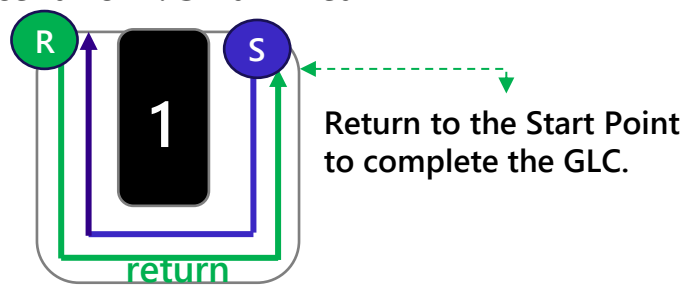


Mapping Session Guide

*How to perform the GLC(Global Loop Closure)

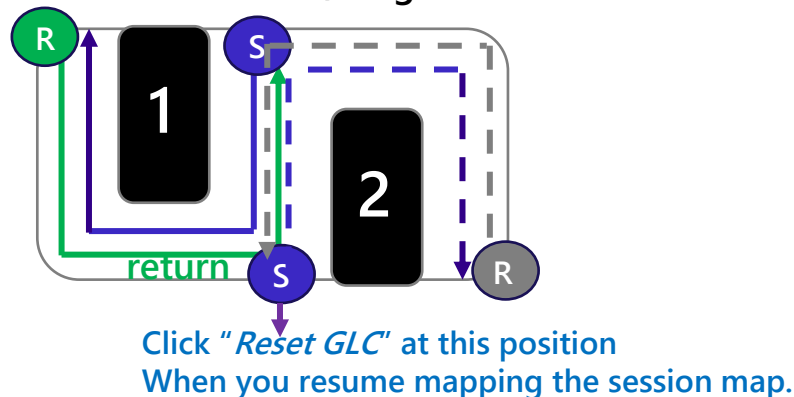
Please follow the guide below to trigger the global loop closure before saving the map or mapping the session map.

Scenario-1 : Small Area

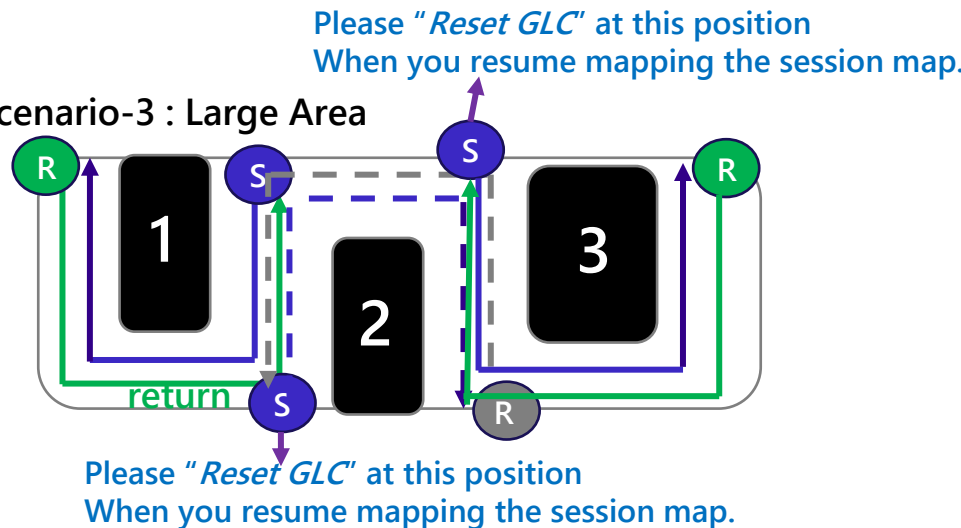


S:Start
R:Return for triggering GLC

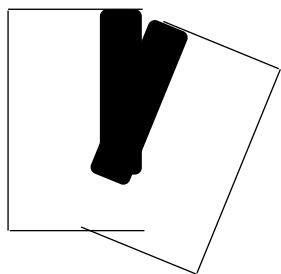
Scenario-2 : Medium/Large Area



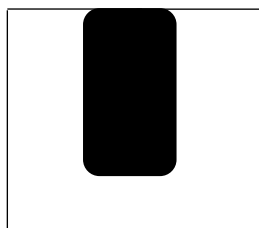
Scenario-3 : Large Area



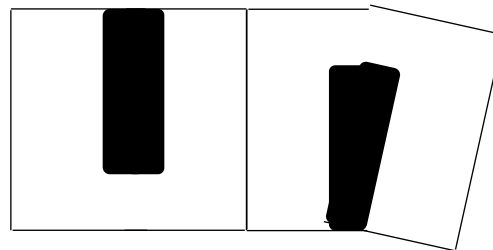
GLC(Global Loop Closure) Success Example



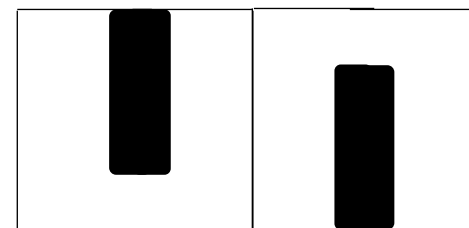
W/o GLC



W/ GLC



W/o GLC



W/ GLC

