Automatic Map Building Start Path Planning Need to Replan Path? Path Planning Find a Path? Find the Boundary Ν of the Room Get Unvisited Area Inside the Room Ν Get a New Target ? All Places inside the Room Have been Visited Path Planning Find a Path? Close to Target? Ν Need to Replan Path? Path Planning to Start Position Try to Get a Turn In Place to Global BA within Detect a Loop Specified Time Global Bundle Adjustment Save Map End