"Lecture-9"
Robot Navigation

> mapping and Exploration:

Mapping and Emploration are called collection of Blyorithm and we will freus on "Occupancy Girid" Blgo.

Occupancy Girid:

-> o The Env/world for Grid structure o Test

-> It can have 3 parts in the cell and those are occupied on empty or unknown.

-> construct a sensor Model:

mon use a sensor and then measure water the area. (22620 area for

then 52 mapping model the we will build a Algo which is "simple OG Mapping Algorithm."

1. Initialize a Graid

2. Update the Girid

3. Pick a Next Move

A. Loop forever

more details

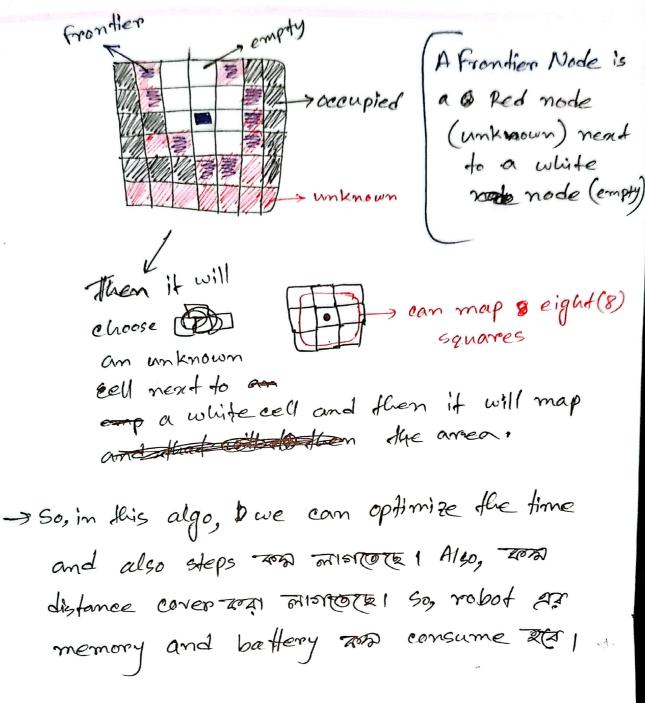
But the problem is we are moving random. So, it is not efficient. Bo, we have to make the next move betters. For that we will use "Frontier Based Enploration"

Frontier Based Exploration:

there we will select the select the frontier cell insted of choosing random cell.

-> frontier cell = a unknown cell with at test least one empth empty cell.

-> Then again plan the path.



Summarry:

Oposition Osensing B Map @ Path

· Position + Sensing -> Map · Position + Sensing +Map -> Path

[SLAM]

[Navigation]

(Simultaneous Localization and Mapping)