

Inter-IIT Tech Meet 12.0

**Drone Software Challenge by
Ministry of Panchayatiraj**

By Team 40





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Problem Statement Objective



Objective

The objective is to design or create a dynamic and educational gaming platform that empowers Gram Panchayats and villagers to actively participate in the planning and development of their communities while considering financial, environmental, and societal factors by utilizing the given data and Gram Panchayat Development Plan

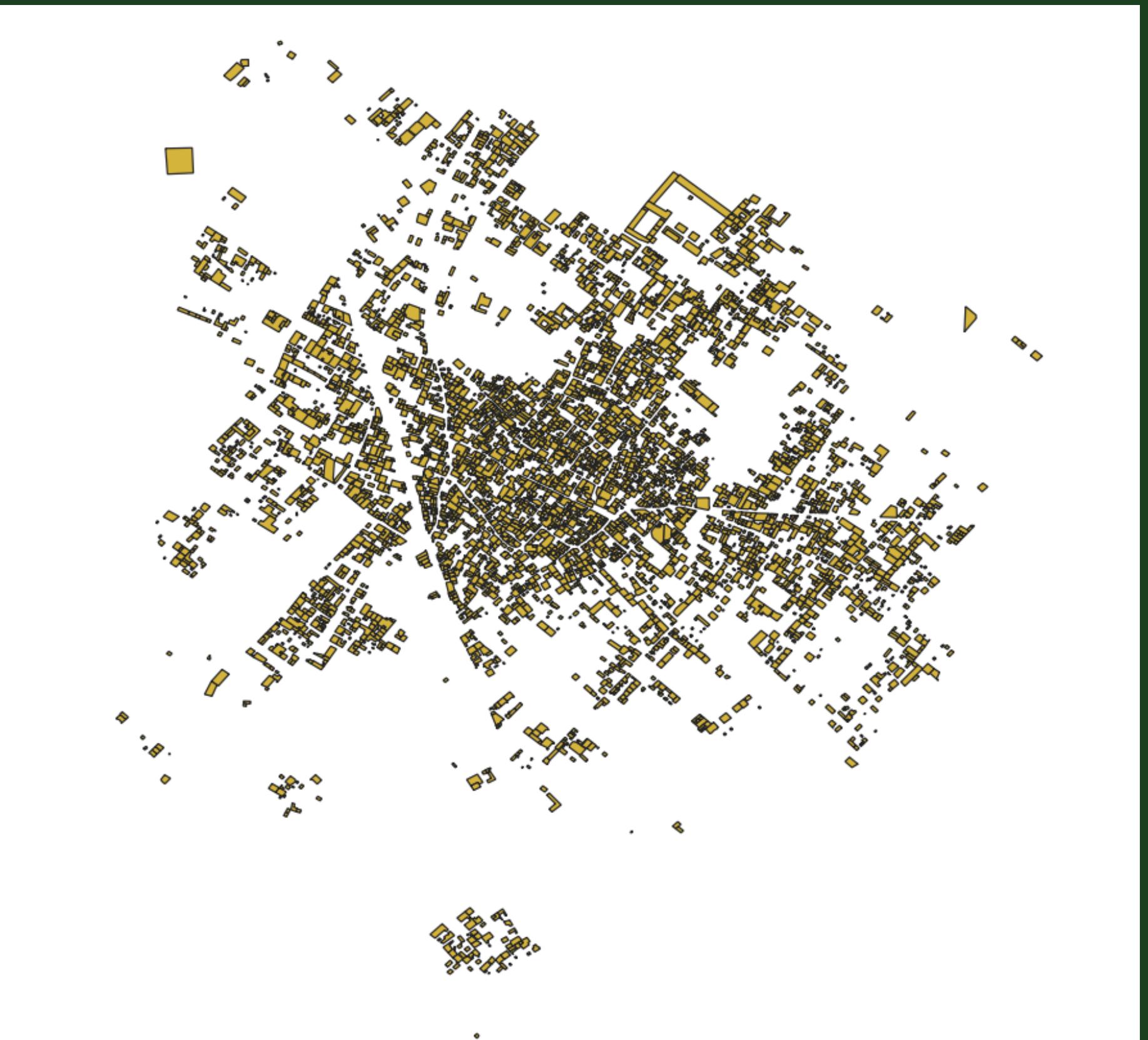
An aerial photograph showing a dense residential neighborhood. The area is characterized by a regular grid of streets and houses, with varying roof colors and building types. Some larger green spaces, possibly parks or sports fields, are visible among the urban sprawl.

Data Exploration

- Given was the Drone data (image as well as Vector data) of Kalonda Gram Panchayat
- The data consists of cpg, dbf, prj, sbn, sbx, shp, shx and tif files
- The shapefiles in the provided data were visualized using QGIS (Quantum Geographic Information System)
- Shown is the TIF file image of the given kalonda data



- This is the shapelylayer of the Kalonda village data given
- Consists of database which have fields
OBJECTID , GlobalID , Uniq_Id ,
State_Code, District_C , Tehsil_Cod ,
Block_Code , Village_Co , LGD_Code ,
Built_Up_A , Village_Na , Area_Desc ,
Name , Owner_Name , Property_I ,
Property_C , Area_Sqm , Roof_type ,
No_Floors , Remarks , Adl_Info ,
SHAPE_Leng , SHAPE_Area , GP_Code ,
GP_Name , geometry



Design Approach

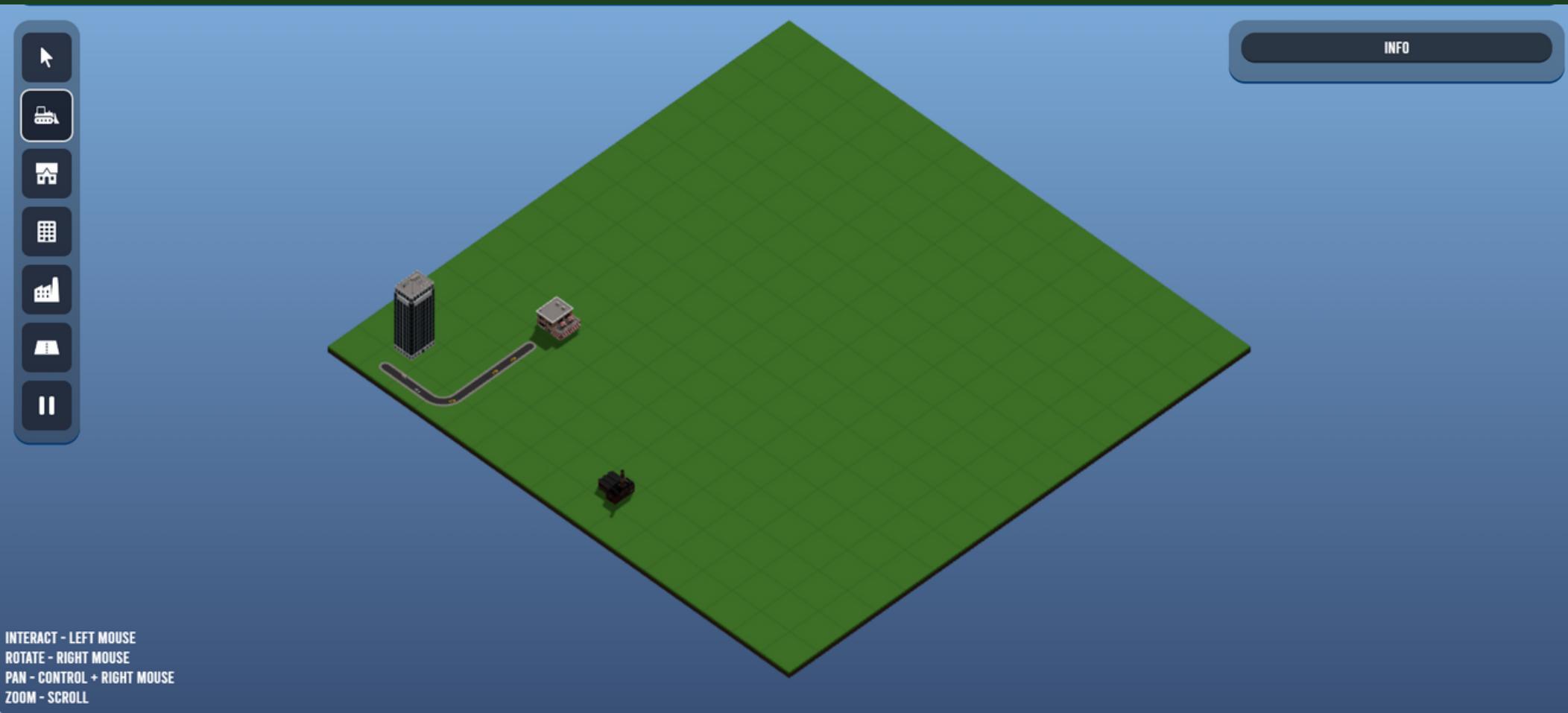


- Game with a wallet of 1 crore rupees for development of the village
- We can play the game by using a wallet to visualize an asset in different parts of the Gram Panchayat with cost implications.
- With finalization/completions of each asset, the wallet would deplete until it is empty.
- Financial resources available to Gram panchayats could be used for the construction of a path (Kutcha, paved with bricks, paver blocks or Cement concrete), side drains, buildings (Gp Bhawan, toilets, additional room, boundary wall etc)
- Type of assets that can be developed in our game are Pathways, Houses, Buildings (Like Malls, Markets) and Industries

- Game can also include the progress scale of Panchayats based on Happiness index
- For instance , Buildings like hospitals, Schools, Aanganwadis, CSCs need to be in close vicinity of the Houses. The game could show the citizen's morale as high and installations such as Sanitation, PowerPlants, Biogas need to be at a distance from the inhabited area/ or on barren land. In case it is closer to the houses, Residents morale goes down.
- Based on this Happiness index can be calculated
- It will be implemented in future

Game Implementation





- We have developed a game using threejs
- Where we have developed the functionality of constructing houses, industries, roads, buildings using the wallet money
- Wallet money will be decreased when constructed any asset
- Happiness Index can be calculated
- Github repo of our code [Drone-Software-Challenge](#)

Thank you