# ICES 2024

TITLE OF PROJECT: "**GIS-based Mapping of Raigad Fort**"

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ABSTRACT:
This research addresses the challenge of acquiring satellite images by proposing a cost-effective method for generating detailed 2D plan maps, case study for reference is mapping of Raigad fort. Raigad fort served as a capital of Maratha Kingdom, situated in Sahyadri ranges of Maharashtra. Leveraging AutoCAD, Google Earth Pro, and Quick Grid, the study combines remote sensing tools with few on-site measurements for increased precision. The Geo-referencing, linear, and angular measurements, as attribute data, are collected using Google Earth Pro, enhancing the spatial accuracy of the map. Additionally, triangulated irregular network (TIN) is employed for elevation data for contouring, contributing to the map's accuracy. The resultant Raigad fort 2D plan map exhibits an impressive 0.30 meters accuracy. The findings highlight the feasibility of creating high-quality maps with smaller financial investment. This methodology provides a viable alternative to expensive satellite imagery, the research recommends further testing across diverse terrains and advocates for the documentation and standardization of the proposed approach to enhance its applicability in broader cartographic and geographic information systems (GIS) contexts. This research offers a valuable contribution to cost-effective mapping solutions with significant implications for users in various fields requiring accurate spatial information.

KEYWORDS: **GIS, Raigad Fort, Google Earth Pro, Quick Grid, 2D Plan, AutoCAD, Triangulated Irregular Network, Geo-referencing, 0.30 meters accuracy.**

CATEGORY: Remote Sensing (GPS/GIS)