

## Presumption of Building's age In Different Digital Housing Maps

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**ABSTRACT:** Information about the age of buildings are becoming significantly important in urban planning, such as for disaster prevention plans and the redevelopment of cities. For example, if we know when a building was built, we can predict the extent to which it may be damaged in the case of an earthquake, because the strength of a building depends on the Building Construction Standard Act at the time of its construction. Therefore, these results will tell us how to prevent the spread of secondary damages.

Expect disaster prevention, because of the information about building's age, we can predict the old unoccupied houses and deserted houses which have increased remarkable, and think about future of city.

But the information about building's age cannot be viewed openly because of its confidentiality of information about taxation, although data is collected as a part of fixed property tax investigation. In this paper, the Information about building's age for every building is presumed by the usage of housing maps that include the shape, position, and the name of the buildings. By combining the result of the identification of shape and name for every building in the housing map at different times, it enables us to judge

whether each building has existed in the old times or became built in between the old and new time, and then information about buildings age can be presumed.

In this study, we made presumptions using Digital Housing Maps (Zmap TOWN II, by ZENRIN CO.LTD) and Detailed Digital Information -10m Grid Land Use- (Geographical Survey Institute). And to inspect the presumed dates, we used apartment data from online information and At Home Inc.

Whereas past studies only identified building shape data, this study attempts to presume the age of buildings between 1974 and 2008. Furthermore, we can automatically expand the study area by implementing this method on various cities. We hope that this study will encourage further research.

Keyword: building's age, housing map, identification of shape and name, estimation