# E-Government Applications Based on GIS for Potential Advertisement Tax (Case Study: Bandung)

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*Abstract*—**Information and Communication Technologies (ICT) promises to efficiency, speed information delivery, global reach and transparency. Therefore, in this era of regional autonomy for the government to realize that good governance is one attempt to use ICT (e-Government). In the Law No. 32 year of 2004 concerning local governance, efficiency and effectiveness of local governance needs to be improved with more attention to the aspects of relations between the composition of government and between local authorities, the potential and diversity of the region, opportunities and challenges of global competition by providing the widest possible authority to the regions along the granting of rights and obligations held a unitary system of regional autonomy in state governance. The mandate of this law shows how important efficiency and transparency, so that e-Government is in line with the practice of the law in Indonesia. Actual tax revenue as the output and purpose as the set target. Efforts to effectively of local tax collections will increase local capacity in the regional budget sufficient to reduce regional dependence of the central government.**

*Keywords*— **ICT, efficiency, transparency, local tax, government**

## I. INTRODUCTION

Local governments seek to develop and enhance its role in economics and finance. In order to improve the efficiency of the implementation of good government and good governance through government administrators, development and service to the community as well as efforts to increase political stability and national unity, hence granting regional autonomy to the district / city is real and is responsible for the fresh wind that must have greeted with positive. With the issuance of Law No.. 12 Year 2008 regarding Second Amendment Act No. 32 year 2004 on Regional Government and Law No. 33 of 2004 on the Central and Regional Financial Balance, system and management mechanisms, especially for local governments will experience fundamental changes.

Autonomy for the regions will actually set the real and responsible and is no longer merely a slogan only. Local Government as well as the Central Government have the same interests in the administration to control and manage his own household. Local government costs and funds for regional development. In order to support the development of regional autonomy is real, dynamic, harmonious and responsible, and government financing of regional development based on regional real income itself, particularly from local taxes, the settings should be improved. Regions are empowered to explore the sources of funds in accordance with the potentials and the circumstances of each region, so that later can increase their own revenue to local finance own household. In addition to human resources, other factors that determine the success of regional development is the availability of financing sources are adequate. Based on the analysis of the background in this paper, the formulation of the problem in this research are how did the advertisement tax potential owned Bandung City is one source of regional real income; the extent to which the advertisement tax contributions to the Bandung region income; what are the inhibiting factors and how the efforts undertaken by the Bandung City Government in increasing Advertisement Tax; and Factors supporting anything that is owned by the local government in an effort to improve Advertisement Tax. Under Law No. 34 Year of 2000 on Amendment of Law No. 18 Year of 1997 on Regional Taxes and Levies Region, while the implementation rules stipulated in Government Law No. 65 year of 2001 on Local Taxes, source of financing comes from local taxes, including the following: Hotel Tax (Perda No. 02 of 2003), Hospitality Tax (Perda No. 03 of 2003), Tax Lease / Contract Houses and / or Building (Perda No. 04 of 2003), Collection of Original Cost (Perda No. 07 of 2003), and Advertisement Tax (Perda No. 8 of 2003).

## II. THE THEORY

Efforts to increase local income can be done with the intensification and extensible of which one is the digging of new revenue sources that allow that can be levied tax / retribution. Effectiveness shows the comparison between the output with the aim of [1]. Every country is expected to issue the National e-strategy start on 2005 [2]. The purpose of the e-strategy is how a country's policies and strategies in utilizing and utilizing information and communication technology, thereby helping the country make a significant change in its development. The Indonesian government has also issued Presidential Instruction No. 3 year of 2003 on policy and strategy for the development of e-Government,  this is one of government's commitment. Also as a national strategy within the framework of the development and advancement of Information and Communications Technology field. Bandung City Government also sees the need to immediately have an e-strategy in exploiting information and communication technology to support government activities Bandung, one of the activities of government service delivery to communities in Bandung in terms of advertisement tax, so as to create a clean government Bandung, transparent, and authoritative [3].

## III. METHODOLOGY

The methodology used for the development of GIS-based e-Government for Regional Advertisement Tax Potential in Bandung with Prototype method, in stages as follows:
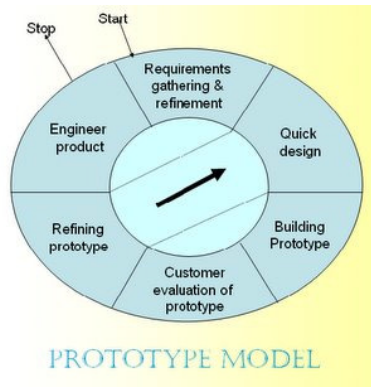


Fig. 1. Prototype Model [4]

### A. Requirement
Between developers and users (stakeholders of Advertisement Tax users) meet to define the overall objective of this software, to identify all the known requirements, and to design flash (Quick design).

### B. Quick design
Quick focuses on the design aspects of the presentation of the software that looks for the user and tailored to user needs. The design led to the construction of lightning into a prototype. Here is the interface design of e-Government applications based on GIS for potential Advertisement Tax Areas in Bandung.
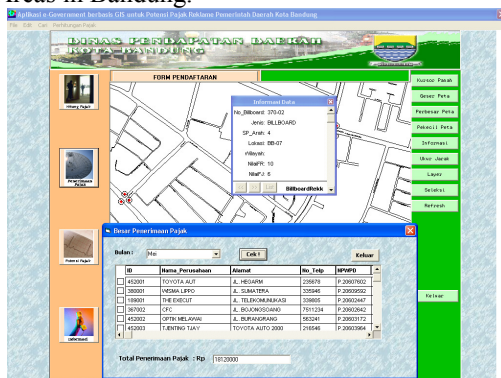


Fig. 2. Quick Design Advertisement Tax Areas in Bandung City

### C. Implementation
Implementation phase aims to keep the system running in accordance with needs. The prototype developed will be tested on the performance of the system and its validity, such as structuring the work environment, creation of data base and the initialization data, and preparation and personal training.

### D. Prototype Testing and Maintenance
At this stage the system will be evaluated by the user to enhance the development of software. The prototype will be a setting to meet the needs of users and at the same time allows developers to understand what to do. The prototype was evaluated by the user and is used to filter the software development requirements. When the prototype is currently running is built, developers should use fragments of existing programs or to apply the tools that allow programs that work to appear quickly. Testing and maintenance of the prototype include:

a. Requirements Document
Document needs is a note of programs that have been designed, can include notes about the program's objectives, the data used in the program, the logic used, the form of input / output, and how to use the program.

b. Designing
Structuring approach is an approach in designing a program that is currently popular. This approach is done by breaking a large and complex problem into several smaller problems in the form of modules so became quite easy to handle. In the vast divide a problem into simpler problems, there are several design guidelines that can be followed in order to more effectively design, namely the design heuristics, among others:

1) Each module should contain less than 50 statements, do not be too long, so easily made, checked and verified.

2) The number of modules under a module that others should be approximately 3 to 10 modules. The number of modules under a module called the fan out or span of control. One technique of structured approaches in system design is made of top-down design, a more realistic by designing a program from top to bottom. Top-down design to determine the general needs first, breaking it into modules that are simpler and so on.

3) Programming
After the problems and needs the input / output has been clearly defined, for purposes of writing the program must be determined in advance programming language. The considerations which may be used in the selection of programming languages:

This type of problem in this system of technical problems; the difficulty of the problems must be solved by the programming language Visual; the mastery of a programming language which is controlled by the programmer is Microsoft Visual Basic; the type of data processing, desktop database form; the availability of a programming language owned; availability of program libraries (libraries) owned by Visual Basic; the ability of Visual Basic programming language such as DDE (Dynamic Data Exchange) which can connect with MapInfo and Map Basic; type of Visual Basic is a programming language compiler; support the programming language from the seller if there is a change in the future; ease of programming language to modify the program if there is a change in the future; and configuration of hardware and operating systems are already to use.

In this programming should also have tests to find errors that may occur. There are error languages (language errors) or errors of writing (syntax error), or grammar mistakes (grammatical errors) are errors in the writing source programs that do not match what was

required; errors during the process (run-time error) is the error that occurs when the executable program is run. This error is relatively easy to find, because the compiler will show the location and cause mistakes; and errors of logic (logical errors) are errors of logic programs created.

In addition to testing, the program must also have the integrity to show that these programs have the ability to withstand attacks (accidental or deliberate) of securities in the form of viruses or hackers. The attack can be performed on all components in the form of software programs, data, and documents.

## IV. RESULTS

E-government applications based on GIS for potential advertisement tax can bring together and disseminate the results of research and field experience of the parties who care about the work of the society to promote the establishment of innovation networks between innovators (of society) with facilitators institutions (government, NGOs, R & D institutions, and universities). E-Government applications based on GIS for potential tax benefit Advertisement for :

1. Bandung City Government

This research is expected to provide inputs for the Government of Bandung, Bandung specially Revenue Service in determining the policy in an effort to increase local revenue from advertisement tax sector.

2. Developers

This research is expected to expand knowledge about the developer of local tax, advertisement tax in particular that will always evolve with tax is increasingly important role in regional and national development.

## V. DISCUSSION

Establishment of Geographic Information System (GIS) in Bandung Revenue Service to analyst a potential tax billboard owned by Bandung City as one source of regional real income, advertisement tax contribution to the Bandung City income, inhibiting factors and efforts to what is being done by the region in improving advertisement tax, and factors supporting anything that is owned by the local government in improving advertisement tax.

## VI. CONCLUSION

Based on the problems in these paper, then it can help the necessary Information Technology-based Geographic Information System (GIS) that can support Bandung Revenue Service in the conduct of tax mapping potential and calculate the potential billboard advertisement tax to support good governance and increase revenue Bandung.

## REFERENCES

[1] Soemitro, Rochmat, *Pajak dan Pembangunan,* Bandung : PT. Eresco, 1982.
[2] World Summit on Information Society (WSIS), the "Declaration of Principles and Plan of Action", Geneva, December 2003.
[3] Peraturan Daerah Kota Bandung No. 8 Tahun 2003 Tentang Pajak Reklame.
[4] Pressman, Roger. S.,Software Engineering, a Practitioner's Approach, Fourth Edition, McGraw Hill, 1997.

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