

Design on Owners' Assembly E-Voting System

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Abstract: With the increasing newly built commercial housing residential district, the owners vote in the Assembly has been the subject of public concern. As owners' General Assembly has a lot of difficulty on convention, set up, decision-making and generation, e-voting scientific system design has become a staple for harmonious community, authenticity and objectivity are the technical difficulties. Owners did not adopt on-site collective discussion, and without the scene circumstances, adopt the use of e-voting innovation. This paper firstly described the need to build e-voting. Secondly appraised E-voting based on the e-mail and SMS. Thirdly illustrated the owners card and web-based network of the voting system innovation. Finally, carefully analyzed advantages and disadvantages of voting system based on e-government electronic.

Keywords: owners aAssembly; electronic voting system; database; web; design; e-governmen

1 Ntroduction: Necessity of Owners Assembly Electronic Voting System

With the abolition of welfare housing system in China, more and more owners of commercial housing district there, the owner of the General Assembly and the Building Ownership of the ambition to be a major challenge. "Property Law" Chapter VI of the 76th Article, decided in the preceding paragraph the provisions of the fifth and sixth issues, it should be accounted for by the proprietary part of the gross building area of more than two-thirds of the owners and one-third of the total number of consent of the owners of more than two and decided in the preceding paragraph other matters, it should be accounted for by the proprietary part of the gross building area of more than half of the total number of owners and more than half of the owner's consent.

Exercise of the rights owner is ultimately a vote by owners to achieve big. Vote launched, India tickets, delivery tickets, to fill in their votes, to monitor the votes and counting, publicity consume a lot of manpower and time costs, but just enough openness. In addition to cost, there is still time, geographic restrictions and other factors, more than 1,000 people a large community (the owners of a business trip more and more) in person to participate in the meeting of owners is not realistic; due to agency processes and procedures cumbersome, the exercise of voting rights proxy can not become owners universal choice; Therefore, the majority of owners are unable to achieve the meeting of owners to vote. To give up voting rights mean abandoning the distinction between ownership of the building control, and thus will lose the basis for the protection of their rights. Therefore, the use of modern electronic technology, and actively explore the realization of the owners low-cost, off-site exercise the voting rights in an effective way is to improve property

management governance structure, the basic work to protect the interests of one of the owners.

Owners of the General Assembly to vote against the paper ballots currently used to organize the implementation and meta-analysis, the workload is very large, relatively long period, but also the quality of statistics is not very high, in order to reduce costs, expand the owners property management services to community participation and supervision of, through the latest electronic means, especially timely, efficient and confidential on the network platform, completion of the voting process, not only reflect the voting notary, confidentiality, but also to enhance the accuracy of voting results, fully guarantee the quality of voting.

2 Design Voting System Based on E-Mail and SMS

Based on e-mail and SMS voting system is mainly responsible parties are the owners committee and volunteers. The first step, to the owners E-mail or cell phone with the owner ID card, real estate confirmed the name to bind; the second step, start the voting issue in order to mass-mailing to the owners of SMS or mobile phone or email, the owners agreed reply, waiver, can stand against it may be Additional personal opinion.

However, faced with five major obstacles:

- 1) Vote-counting, verification manually, the heavy workload.
- 2) The mobile phone or e-mail network congestion. Collected the views of the deadline, text messages and e-mail focused on "bombing", resulting in network congestion, the vote is lost.
- 3) The need to retain for future reference or e-mail messages, cell phone text messages take pictures to stay late, a lot of space occupied by cell phones and email.
- 4) The owners' mobile phone and E-mail privacy

information will be exposed to the owners committee and volunteers.

- 5) The timeliness of SMS reply, repeated passes, change voting and mobile-mail address to change the problem. On this basis, the protection of privacy, reduce the links, to prevent duplicate voting fraud and equitable owners of cards and web-based voting system in the server.

3 Voting System Design Based on Owners' Cards and Web

Developers, property companies, owners committees, third-party network service operators, the Government can build Web-based or owners card voting system scrutineer, the advantage of votes, and the vote count feedback auto-complete and ready for future reference. The Government is monitoring the owners of the General Assembly side, the web server to build the voting system, the most transparent, open, fair advantage, to promote the current trend.

Government web servers primarily use ASP.NET and SQL Server database, the owners of the General Assembly voting system, to complete the functional design and database design. Concrete realization of divided three parts: (1) the realization of part of the stored procedure; (2) the realization of part of the database access layer; (3) the realization of part of the function of the page.

Here in 2008, Xiamen City, Green homes, Avon Park, Xianyue Villa, sea Sheng Brown Blue Ocean 1366 cards have been issued cards and web server based on the owners of the voting system to do an introduction.

The use of government e-government platform, the owners of the General Assembly to build a system of electronic voting system design flow includes three steps: The first database data table structure in the design and creation of database connections; the second is to show the options to vote polling interface design; three in the voting process and view The results showed that design.

3.1 Voting Rights Distribution and Landlord Identification

Government determine the voting rights of the owners of property rights registration of distribution, binding capacity as a landlord. Maintaining the Integrity of the Specification Release "owner identification card" and realize the real-name identity tied up the owners. The card department of Xiamen City, the building with the Authority and the Agricultural Bank of China, Xiamen Branch of the joint development of production. In addition to cast their votes, the card also has bank deposits of public financial management and query facilities, a dedicated fund balance and use.

Government Web Server Admin can be designed to the owners' property database, floor number, room number, forum ID, is the real name tied, from the title

certificate database; extract data, and additional publicity pooled area data, to attract owners to participate in online community management.

3.2 Launch Voting Decisions Plan

That part of the functional design include: voting the project to add, remove management, the matter can be involved in all of the owners of the entire plot of the important matters of public interest, but also to vote, but a number of staircases, buildings, or organize groups of the owners of public interest, the housing management property management departments and community-based monitoring.

Designed mainly for the seven functions:

- 1) The developer left the building quality issues, supporting the building are not in place, the delivery of extension, Non-compliance with commitment.
- 2) Public positions, public facilities (pooled area) and location of the specific content of the owners with developers, owners, between owners and the property division. Including the management of parking spaces and charges.
- 3) The owner of the Convention. Owners, the property of people illegally using the decoration, Luanda Jian, occupying public access, pet dog, trampling green belts, littering, indiscriminate parking, noise nuisance, soot pollution, occupation, closed fire exits, a set of multiple sets of changes, system.
- 4) To determine level of service standards for the property and the property service charges and cost accounting standards, for the quantitative evaluation and monitoring service quality.
- 5) The owners of the operation and supervision of the Commission. Election or change the Owners Committee, to the Commission; industry funding for publication of the Commission inquiries. Industry Authority general election, resignation, lack of staff management.
- 6) Special maintenance funds (including private funds and public facilities, public housing maintenance funds), the mobilization and use.
- 7) Renewal of contracts, hiring and dismissal of property services enterprises.

To launch the industry committee election ballot interface design, for example, need to design and selection of candidates Zijian module; candidate's curriculum vitae display modules such as name, date of birth, gender, position / title, education, residence, photographs; related to the election laws and regulations module.

Web Server option to vote operations background to design options that we agree to vote for, against, abstained, radio or multi-selection rules and time limit. Database design need to store voting information. Create a poll the voting list items, number of votes the design field. Also

need to repeat the vote and to vote to make changes in specifications. And ask the owners or the owners of the owners of the General Assembly the Committee convened recently in the voting system publicity, and to knock on the door, publicity columns, or cell prominently publicized in writing, e-mail, phone notify mass. Examples of the Commission lists of candidates linked on-line publicity for 15 days.

3.3 Vote Implementation and Statistical Inquiry

Owners within the district or the touch-screen voting machines credit card online account login enter the government website, one on the 1st, via a password mechanism to achieve the online vote. Voting results are automatically summarized publicity, housing management and community supervision.

Password set up rules for the user, called special-purpose card number. The initial password is the use of identity cards for registration of owners of property information for the initial password after the six-digit date of birth; the same time the introduction of the street, community workers, notaries, and may be entrusted on behalf of the cast. Manually fill in the on-site, written ballot submitted, mobile phones, E-mail to vote in the community, achieve network notary to vote.

Owners Card Management Module provides property owners to change or loss of card replacements or fill cards: With ID card original and two copies of the original certificate to the public and property maintenance fund window, confirmed re-submit.

Xiamen Xianyue Villa district of the second session of the meeting of owners to use Internet voting under way, 4 hours elect the new committee and agree to extending the service industry, "steward" - Xiamen White Lester building management company.

4 Advantages Analysis on E-Voting System Based on E-Government Web

4.1 Technically Entirely Feasible

China has preliminarily established a government agency as the core housing management, maintenance, relying on fund management center, neighborhoods and communities as the terminal of the electronic, networked e-government systems. Owners of property registration, property corporate governance, the owners of the General Assembly supervision, maintenance fund the initial establishment of monitoring system, the existing e-government system, security, efficiency has been tested.

In general, the owners of the General Assembly of electronic voting systems need to address three key issues: First, the owners' identity authentication; second confirmation vote; third, safety and reliability of the system. Specific programs can be seen from the foregoing, the use of government e-government system, and the owners of building electronic voting systems, the above

three issues have been fully resolved.

In fact, in the above scenario, only owners of voter identification, one call ownership database information through the Government; 2 through the owner's password authentication to complete, by these two processes to address the identity and voting weights; The voting results of the statistics are statistics out of the host system through the government, identity is more neutral, human intervention, modify, and the possibility of statistical error is very small, fair and objective manner to protect the voting results; for the security of the voting system from the foregoing that the program could be seen, in fact comes down to the existing property management e-government systems security. Thus, the use of the property management of e-government system, the owners of the General Assembly voting system to build technological environment has reached full maturity.

4.2 Low Construction Cost, High Efficiency

Construction of electronic voting systems are two ways to choose from, first, to establish a "public voting system", that all of the owners of the General Assembly could share the same set of voting systems; two owners of the General Assembly, property companies, developers (large owners), third-party network service providers (such as the focus of network) to establish their own electronic voting system. Either way, there is no technical obstacle. However, the property management of the various participants in the building would result in duplication of the waste of social resources in the management of the use will face many problems, this approach "no economy" clearly identifiable. The present circumstances, the use of the property management of e-government system, to build the public meeting of owners of electronic voting system with low cost, technically feasible, easy to implement, promote the use of easy authority of a fair advantages. .

4.3 Basis for the Owners Use, Easy to Promote

Existing owners of the General Assembly, the pilot has been awareness and acceptance across the country in various cities and counties in the property management administration platform to become the majority owners of a network of electronic voting terminals to promote the use of very easily.

5 Problem Analysis and Prospects

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5.1 Legal Obstacles

At present, the owners of property law the General Assembly can only be present in person or entrusted others to attend, in principle, be able to vote by electronic voting. Allow the owners the right to vote difficult to achieve.

As the field of information technology in the extensive application of property management, electronic voting will become a reality will be the case, the relevant departments respond to the meeting of owners to make a specific e-voting law, the legal recognition of electronic voting results. At present in China, Zhejiang Province has made clear to owners of electronic voting laws. In September 2009 on the adoption of the "owners of the General Assembly and the draft rules of procedure of the industry committee," recognition of electronic voting results.

5.2 Dominant Share of the Property Developers

If the developers in the status of general meeting of owners living in absolute control, even if the owners through the electronic voting system is able to actively participate in, but because of the voting shares held by the relatively limited impact on corporate governance also relatively limited impact on small owners to participate in voting enthusiasm. In addition, the developer due to the dominance phenomenon is not conducive to the promotion of e-voting system. Since the introduction of electronic voting system, will expand the scope of the shareholders to vote, which means that the owners of property management and developers will continue to enhance the binding, so by the developers, the lack of control of property management to promote the positive nature of this process, the Government needs to monitor the housing management departmental administration push to become the unanimous choice of the market.

5.3 Concerns About Security the Fairness

Network security is the application process in the general interest, as electronic voting without paper-based documents can be checked after the data electronically, it was very easy to be modified, therefore, the majority of

the owners of the electronic voting system security and voting results the legal recognition and justice are concerned about the transmission, eliminating the owners of e-voting security concerns is the introduction of electronic voting system must be addressed.

One concrete idea to explain to the owners of the promotional exchange system security and reliability; the other hand, the introduction of third-party monitoring, notarization, to ensure that the results of the statistical fair voting process open and transparent; would need to develop information on the voting results confirmed that delivered to the owners of the General Assembly a detailed way to prevent the information in the intermediate links be modified. The use of double encryption, complete vote of non-retroactivity, can not be modified and so on.

In short, although the owners of the General Assembly, China's electronic voting is new, there were still many problems, but as the network technology and the owners of the General Assembly to promote the improvement of functional design practice, in particular the nature of the meeting of owners of e-government web voting system, is bound to mature and improve.

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References

- [1] Yang Ying. "ASP-based Internet voting model system implementations," Network Security Technology and Applications, pp. 29–31, September 2006.
- [2] WANG Hua-dong. Web-based voting system research and development [J]. Fujian computer, November 2005, pp. 8–11.
- [3] Zuo Li-ming, Liu Er-gen. A trusted on-line voting system model and design [J]. Computer Engineering, March 2005, pp. 11–13.
- [4] Xiao Mei. ASP on-line voting system procedures to prepare ideas [J]. China's western science and technology, 2006, (23).
- [5] Yang Ying. Web-based ASP model system for the realization of voting [J]. Network Security Technology and Application, September 2006.