

Chapter 13

Leveraging the Service Paradigm for Producing Next Generation E-Governance Applications

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ABSTRACT

The 21st century is aptly being termed as e-age. This is with the arrival of a suite of path-breaking and trend-setting computational and communication technologies and tools besides the grand and global installation of wired as well as wireless network infrastructures. As many of yesterday's concepts, ideas, dreams, vision and desires are being translated into reality today through a host of resilient and robust software, hardware, networking, sensing, perception, and decision-enabling technologies and best practices, it is natural for the total human society to embrace IT and enjoy its direct as well as indirect fruits in a big way with a tinge of assurance. In this context, e-governance methods, platforms, processes and practices also became the cornerstone for effective, efficient, energetic, fast, timely, transparent, and people-centric governance. In this chapter, the author brings forth a new promising, matured, proven, dependable and easy-to-use service technology for designing, developing, deploying, and delivering applications for many of the tasks associated with digitally inspired e-governance. The author has zeroed down on service and cloud technologies as the major drivers for new-generation digital governance. This chapter throws more light on these technologies. Services are stimulating the process-centric approach for application development, modifiability and sustainability. Further on, all kinds of programming models, methods and mechanisms (agile, aspect, component, composite, and event model building blocks) are easily gelling with the supple service paradigm and principles in articulating and actuating dynamic, real-time, instant-on, smart and sophisticated systems.

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E-GOVERNANCE: INTRODUCTION

Every industry domain aspires to grow drastically and decisively with the smart adoption and adaptation of potential and prominent information and communication technologies (ICT). That is, technology assimilation has been a routine affair for any business organization in order to be competitive and cognitive in its operations, outputs and outlooks. IT is being widely accepted as the top business enabler and hence it is being successfully leveraged to accomplish the goals of business automation, acceleration, and augmentation. There are a number of new buzzwords emerging and evolving with businesses joyfully joining hands with all kinds of improvements and improvisations of IT. All the prime industry domains are rebranded as e-commerce, e-business, e-market / e-auction, e-supply chain, e-cash, e-voting and so on. Students, scientists and scholars are very much contributive in unearthing high-performance and assurance techniques, tips and technologies in simplifying and streamlining the transition from ordinary to extraordinary IT-inspired business applications. E-governance is a kind of highly popular and pervasive subject of study, research and embrace. Worldwide governments are showing an exemplary interest in analyzing and accommodating all kinds of matured and stabilized technologies in order to ensure speedy delivery of citizen-centric services to the authenticated and authorized in time with all the quality entrenched.

Holistic visions of digital government have emerged over the past decade. Digital government or following the current techno linguistic conventions, e-government can be defined as the civil and political conduct of government including service provision, using information and communication technologies (ICT). Nowadays, government transcends all sectors in a society. It provides the legal, political, security and economic infrastructure to support other sectors, apart from

exerting significant influence on the social factors that contribute immensely to other development. E-government, as a result, has the potential to profoundly transform citizen's conceptions of civil and political interactions with their governments. Unlike, commercial service offerings, digital government services must be made accessible to all the citizens in an impartial fashion.

Digital government systems can generally be characterized along two major dimensions:

- The architectural relationship they have with their clients;
- The type of service they can provide to their clients.

Architectures include intranets to support intergovernmental as well as intra-governmental processes, public network access to facilitate government-citizen interactions, and extranets for supporting interactions between the government and non-governmental organizations. Generally, current e-government system designs provide one of four service levels:

- First-level services provide one-way communication for displaying information about a given agency or aspect of government;
- Second-level services provide simple two-way communication capabilities usually for uncomplicated types of data collection such as registering comments;
- Third-level services facilitate complex transactions that may involve intra-governmental workflows and legally binding procedures. Examples of such services include voter and motor vehicle registration;
- Fourth-level services seek to integrate a wide range of services across a whole government administration, as characterized by the many emerging government portals.

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