

Digital Mobile Key (Chave Móvel Digital)



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Organisation: Agência para a Modernização Administrativa (AMA) – Agency for the Administrative Modernization

Country: Portugal

Level of government: Central government

Sector: General public services

Type: Digital, Public Service

Launched in: 2015

Overall development time: 6 month(s)

Link to the innovation's website

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Description

The Digital Mobile Key (Chave Móvel Digital) is a safe authentication system to use in public services available online. It's made of a permanent keyword, chosen by the user, as well as an automatic and temporary code number sent via mobile or email, to use in each authentication made.

At the moment, there are two ways to get a Digital Mobile Key: via the internet with a Citizen's Card and a Citizen's Card reader or, in presence, in a Citizen's Shop or in a Citizen's Spot.

This new and alternative authentication method can be used by Portuguese citizens – requiring a Citizen's Card or an old ID card – and non-Portuguese citizens – requiring a Passport number – that need or want to use online public services as the Citizen's Portal, the Health Portal or the Entrepreneur's Counter, among many others that are joining the system.

Why the innovation was developed

- The Digital Mobile Key was developed as an efficient and effective alternative authentication system to help citizens to access online public services in a simple, fast, convenient, but secure way.
 - Different from the existing authentication method for online public services which requires a Citizen's Card and the respective PIN number as well as the Citizen's Card reader, the Digital Mobile Key intended to cover also citizens with the old identification card, that can get a Digital Mobile Key in the Citizen's Shop/Spot counters that provide that service.
 - This way, Portuguese citizens can have their Digital Mobile Key with or without their Citizen's Card (digital certificate). Foreign citizens' access to the Portuguese public online services was also guaranteed by the use of the passport number.
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Objectives

Enhance public trust, Improve access, Improve effectiveness, Improve service quality, Improve user satisfaction

- Digital Mobile Key allows citizen's authentication with a mobile device (phone, tablet or other) and supports operations since the registration step to the cancellation of the membership of the mobile authentication;
 - Citizens can authenticate themselves without using their Citizen's Card. For this, they must register their phone or other mobile device in the system, which will ensure the flow of mobile authentication;
 - The entities involved can associate/consult/change/cancel the registration;
 - The Security is based on a PIN code citizen + security code sent by SMS or email.
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Main beneficiaries

Businesses, Ethnic or racial minorities, Government bodies, Government staff

- Every Portuguese citizen can associate his civil identification number to a single mobile number and one or more email addresses;
 - Foreign citizens can also make the association mentioned above using their respective passport's number;
 - The holder of a CMD can authenticate himself in Public Administration websites by introducing his identification, made by a permanent keyword and a temporary and automatically generated numeric code, sent by SMS or email;
 - Estimated number of beneficiaries ≈ 2000 registers.
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Existing similar practices

Home banking

In the private sector, civil society or elsewhere

Banks

Digital Mobile Key works with mechanisms similar to the home banking procedures, namely in the validation processes made by the home banking users.

Results

Efficiency

- The authentication with the Digital Mobile Key can be performed without a card reader;
 - Portuguese citizens in other countries may access to the Portuguese online services.
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Effectiveness

- The registration and the use of the Digital Mobile Key service can be made by Portuguese citizens with the Citizen's Card (digital certificate) or with the old ID card (no digital certificate) and by non-Portuguese citizens using their passports number.
 - Every citizen, national or foreign, abroad may soon get a Digital Mobile Key at the Portuguese consular services.
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Service quality

Accessibility:

- The use of Mobile Digital Key has no charges for the citizen;
- Large number of services, in different areas;
- Digital Mobile Key 24/7 availability.

Responsiveness:

- Digital Mobile Key has the technology to respond to the user's preferences (by SMS or email);
- Available to different types of users;
- Multi-browser view.

Reliability:

- Maintenance planning;
 - Use simulation to obtain estimated performance metrics;
 - Identify vulnerabilities in a system and determine the most effective ways to reduce the risk.
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User satisfaction

- Users have an alternative authentication method available;
- The number of registrations is growing on a consolidated basis.

Development

Design

Portugal has a strong and structured e-Government strategy, which is the result of a well-designed plan to create a number of innovative initiatives in the areas of Simplification, Services Delivery and Electronic Government. The Digital Mobile Key was created under this strategy.

The Agency for Administrative Modernization developed the Digital Mobile Key in order to have an alternative mechanism to the Citizen's Card for electronic authentication; a more secure than the traditional username and password access to the services; and a simpler method for the citizens.

The Digital Mobile Key also follows the main recommendations expressed on strategies recently adopted in Portugal, as the PGETIC – Global Strategic Plan for the Rationalization of ICT Costs in Public Administration, to adopt and implement one multi-factor mechanism for electronic authentication, efficient from a financial point of view and with the possibility to evolve technologically.

Design time: 1 year(s)

Testing

- Our test plan contains many headlines and describes how the system is usually tested. We included a description of the test scenarios, what should be prioritized in the tests, what roles are needed and a description of the Digital Mobile Key.
- The outcomes of the test scenarios include: best practices to identify implementation strategies for users and demonstrate and operate in back office for others to utilize (create new users, data change, etc.)

Testing time: 2 month(s)

Implementation

Tools used:

- Infrastructure architecture including application architecture: Application for user registration; Application for use of authentication; Registration Web Service; Authentication Web Service; Monitoring Service; Database. The architecture wanted to address the requirements identified during the project, including high availability, sizing and scaling.
- Physical architecture: Firewall; Application Server - The web server modules are installed: Application for user registration; Applying for use in authentication; Web Service registration; Authentication Web Service; Monitoring Service; BD.
- Windows Server 2003 Server or Windows Server 2008 R2: Internet Information Services 6 or 7.5; Microsoft .NET Framework 4.0 installed; the SGBBC Microsoft SQL Server 2005 or SQL Server 2008 R2. This server must be accessible in the Internet / Intranet.
- SMS Gateway as an external component that is invoked by the application to send SMS.

Resources used:

- Staff Resources: 3 internal human resources and 3 external support team members.
- Budget: EUR 200 000

Implementation time: 2 month(s)

Diffusion

- Invite to public entities for implement the innovation; communication plans; marketing; supporting public services online; defining and implementing a communication strategy for the citizen, businessman and public and private entities on electronic identification with emphasis on Digital Mobile Key.
- Development and creative concept, image, content and communication line for various browsers;
- Promotion of authentication for access to public services on websites and internet portals;
- Methods used included a press conference; providers, flyers, posters, brochures, performance with various target audiences such as the media, students, businessmen, and immigrants.

Diffusion time: 1 year(s)

Challenges and solutions

- Users can make this authentication mechanism more usable;
- Improving the convenience of access to online services of web applications;
- The registration requires confirmation of identity citizen conferencing with a citizen card, identity card or passport;
- Different authentication methods are appropriate for different transitions;
- Various approaches in terms of security and usability;
- The sustainability model is re-evaluated in the review of this Order in light of developments in use and operating costs of Digital Mobile Key.
- Solutions included: adequate separation between the various databases information used by those systems, and information of specific interactions made between citizens and the services or directors of agencies Public only stored in information systems of those departments;
- When you check any misuse of the Digital Mobile Key, can exist temporarily suspend for a period of 24 hours;
- Verification of failed attempts by the user, the combination of key authentication word and numeric code sent by SMS or email, implies the automatic blocking of the use of Digital Mobile Key;
- Failure to use the Digital Mobile Key during the 18-month period determines its automatic revocation.

Partnerships

Citizen's Portal, Entrepreneur's Desk, Citizen's Spot, Social Security, SPMS

Other Public Sector

First of all, the partners must create conditions to offer the Digital Mobile Key registration to the citizens. After that, the Public bodies or other entities that have protocols with the Agency for the Administrative Modernization should promote the service, incentivising citizens to use the Digital Mobile Key.

The Portuguese Agency for the Administrative Modernization (AMA) is responsible to provide adequate training to the Digital Mobile Key register teams. AMA also provides technical and functional support to these teams, through a help desk or by email.

Lessons Learned

Lessons Learned

- The main goal is to create a way to give alternative access to online services. The foreign and national users were already curious about the Digital Mobile Key service.
 - As we plan the next phase, the goal is to find ways to include the opportunity to expand registration internationally through dissemination at consular posts. The countries are in a position to make effective and speedy use of such best practices for their own purposes with the similar service.
 - What worked well was providing a more comprehensive solution to the population with an integrative solution, request to integrate the solution with platforms access to public services, and collaborative work between technical teams.
 - What worked less well was that in the beginning, no information was published on the subject to inform citizens in attendance posts. The implementation of the system in production entailed conducting rigorous testing with dummy data
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Conditions for success

- Involvement of stakeholders, a culture of innovation that creates conditions to promote Digital Mobile Key to the users, extending the Digital Mobile Key to other public and private services, communication plans, marketing, supporting public services online, legislation and rules for electronic identification, inclusion of citizens without digital certificate and foreign citizens, promote the use of smartphones, tablets and other mobile devices, and re-evaluating the sustainability model according to the developments and operating costs of the Digital Mobile Key.
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Other information

One of the main components of the Digital Mobile Key platform (CMD) is the authentication of a citizen through the use of a mobile device (mobile phone, smartphone, tablet). Mobile authentication allows Citizen authentication via an Authentication Provider (FA) without having to use the Citizen Card at the time of authentication, but a mobile phone previously registered or an email address.