User authentication in E-commerce

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SSIN 2013

E-Commerce

40% grow until 2017 (Portugal)

Over 1$ trillion in transactions in 2012

More money “lost” in frauduled schemes

Assure the company they are selling to who they think they are

Where’s My Password

Passwords can:

- Be forgotten
- Be stored in improper places
- Be stolen

Social Engineering

- Pretexting
- Phishing
- Ransomware?

Shoulder Surfing

Authentication Factors

Knowledge Factors

Password

PIN

Secret Question

Possession Factors

Smartphone

Electronic Tokens

Smartcards

Inherence Factors

Fingerprints

Iris Scan

DNA...

Multi Factor Authentication

Using More than One Authentication Factor

```
A problem has been detected and Windows has been shut down to prevent damage
to your computer.

The problem seems to be caused by the following file: nv4_disp

If this is the first time you've seen this stop error screen,
restart your computer. If this screen appears again, follow
these steps:

The device driver got stuck in an infinite loop. This usually indicates
problem with the device itself or with the device driver programming the
hardware incorrectly.

Please check with your hardware device vendor for any driver updates.

Technical information:

*** STOP: 0x000000EA (0x82619798,0x82633888,0xF8BA8C84,0x00000001)

nv4_disp
Beginning dump of physical memory
Physical memory dump complete.
Contact your system administrator or technical support group for further
assistance.
```

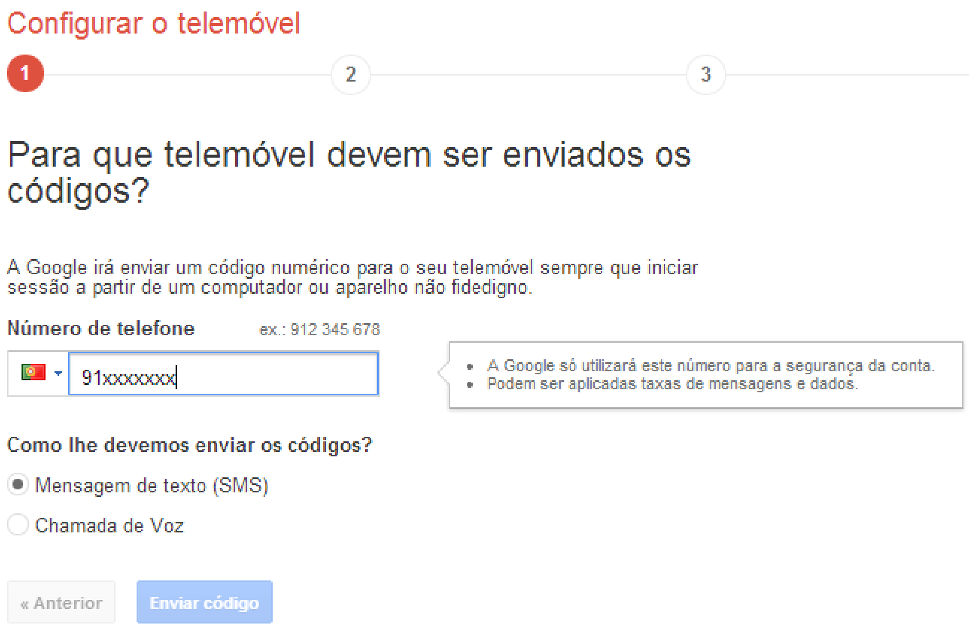
Our Solution

Base Function similar to Google Authenticator

Asking Password

Sending PIN code to Smartphone

Trusted Machine (Cookies)



Configurar o telemóvel

Para que telemóvel devem ser enviados os códigos?

A Google irá enviar um código numérico para o seu telemóvel sempre que iniciar sessão a partir de um computador ou aparelho não fidedigno.

Número de telefone ex.: 912 345 678

91xxxxxxx

- A Google só utilizará este número para a segurança da conta.
- Podem ser aplicadas taxas de mensagens e dados.

Como lhe devemos enviar os códigos?

● Mensagem de texto (SMS)

○ Chamada de Voz

Extending the Solution

Adapting to E-Commerce

- Adress Distance Assessment
- User buy history

Man In the Middle Mitigation

- Dual PIN confirmation
- HTTPS

Problems?

Intrusiveness

- Clash with Amazon’s 1-Click Checkout or similar solutions

Cost

- Sending SMS

Thank you!