Mobile Education Cybersecurity on the Educado App

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The Problem(s)

How can security be implemented on the Educado App?

Cyber Security and Privacy

Cyber Security

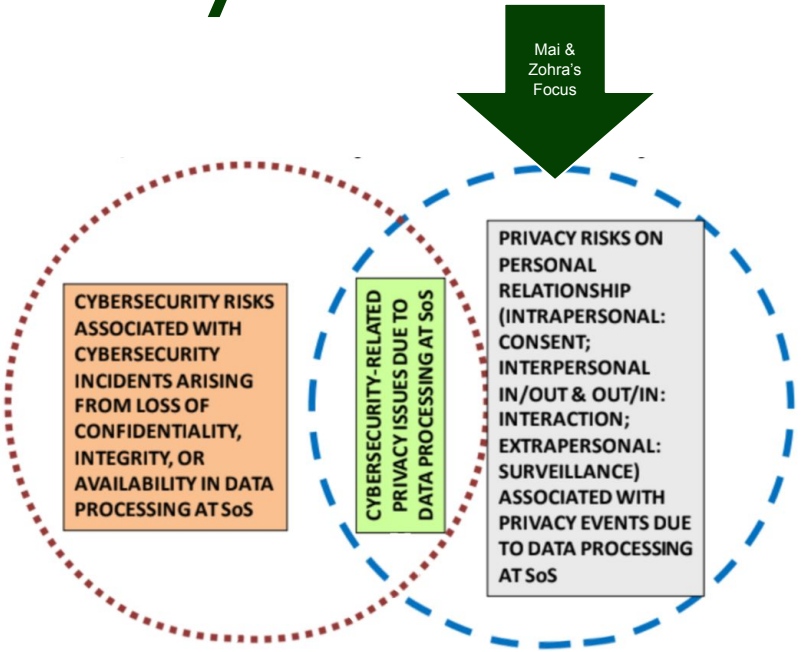
- Incidents with loss of confidentiality, integrity or availability

Privacy

- Protecting relationships and requires consent

Intersection between both

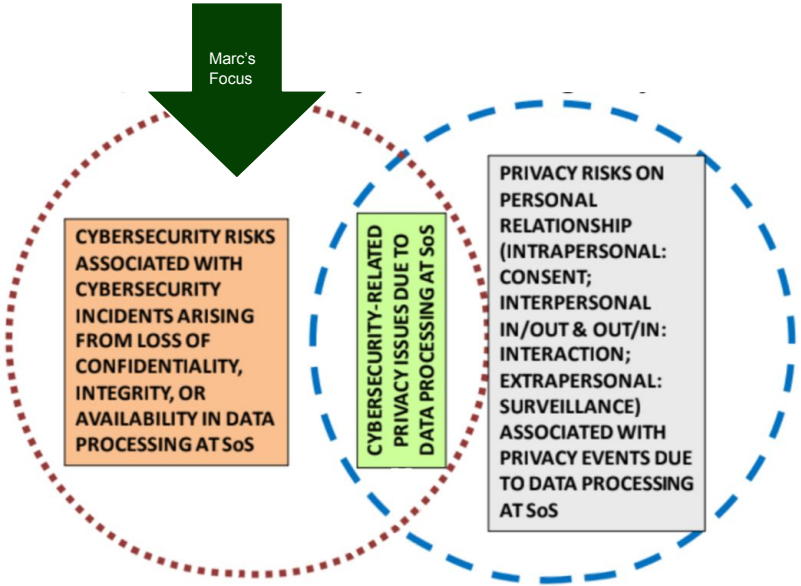
- Cyber security & privacy issues in data processing



Source: João Mello Da Silva & Paulo Celso Dos Reis Gomes, 2022

General app security

- Research/gather data
- Test Educado app
- Implement security based on priority



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Platform: EDUCADO

- Mobile Application
- Web Application
- One backend and database

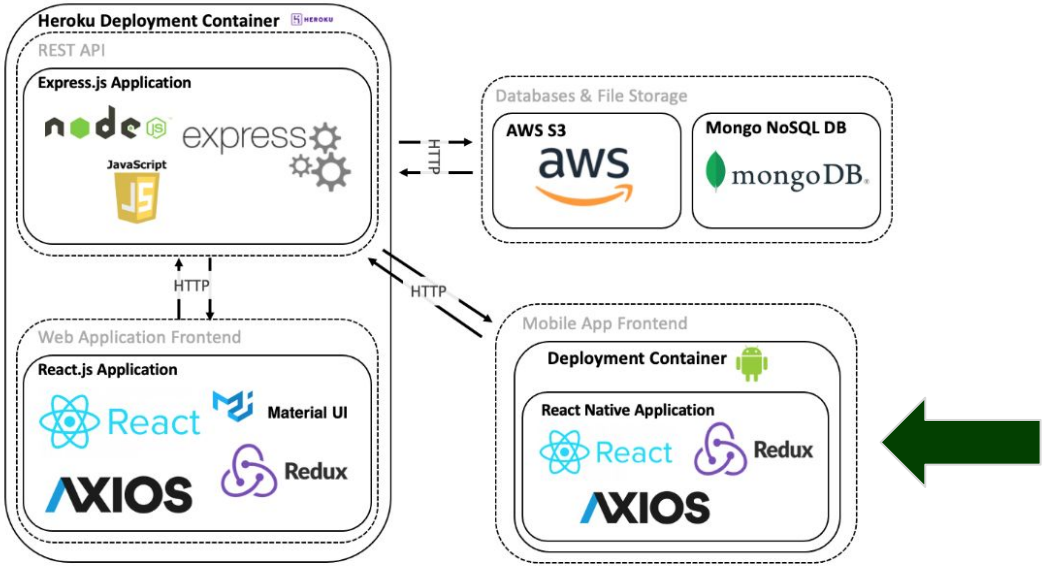


Figure 7.2: Solution microservices architecture

Cite: "*Daniel Britze and Jacob Vejlin Jensen, Digital learning platform for waste- pickers in Brazi, spring semester 2021*"

Integrated Recycling Complex

Script

Interview

The waste picker did not know what LGPD is

On a scale of 0 to 10, the waste picker rated the importance of privacy to be 8

Privacy was important to him only in bank related Apps

The waste picker use only one password to all Apps

LGPD

Differences:

- 10 legal basis for Data Processing
- No storage limitations
- 30 day time limit for businesses to respond to access requests from data subjects
- Not clear whose task it is

Similarities:

- Applies to Data Controllers and Data Processors

GDPR

Differences:

- 6 Legal basis for Data Processing
- Storage limitations
- 15 day time limit for businesses to respond to access requests from data subjects
- Clear where responsibilities lie for enforcement of the law

Similarities:

- Applies to Data Controllers and Data Processors

Research and test

Testing EDUCADO security (OWASP web application top 10 security risk)

- Best practice + standards (for app + cloud)
- Typical attacks on apps
- Security assessment of the Educado App

Source:
https://detectify.com/lpp/owasp?creative=606442759437&keyword=owasp%20top%2010&matchtype=b&network=g&device=c&gclid=CjwKCAiAoL6eBhA3EiwAXDom5gpGfbknZAhmgkHE8a6YGYnZiRqCp1GaNw8tvpCbCJQNqPai_uPqVRoCVKUQAvD_BwE

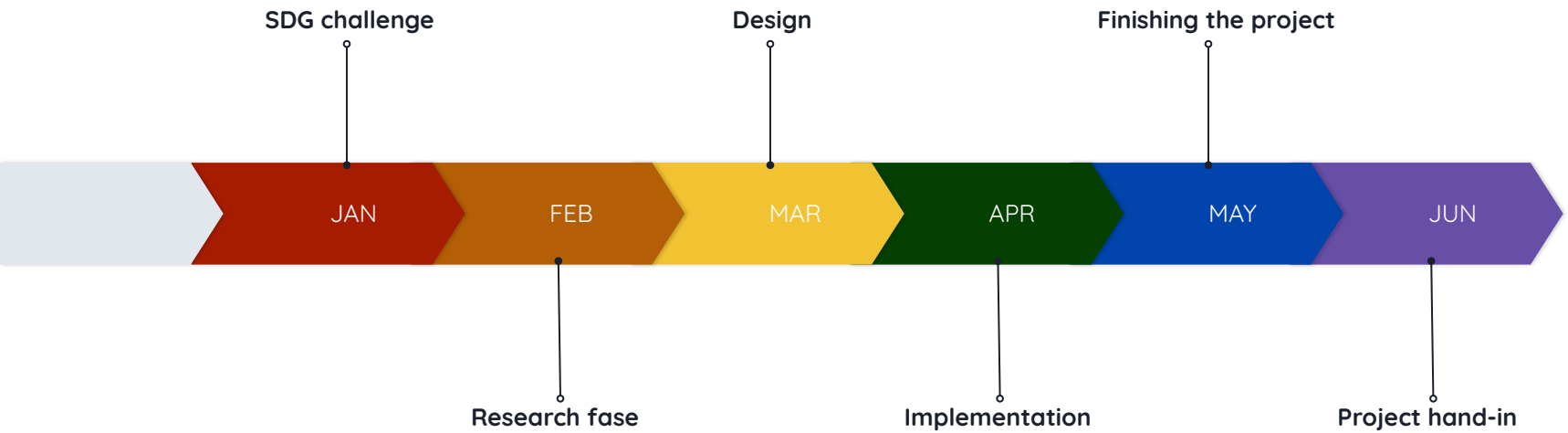
https://www.zscaler.com/blogs/product-insights/what-owasp-top-10

OWASP web application top 10 security risk

1. **Broken Access Control:** Bad control to datasystem
2. **Cryptographic Failures:** Use of weak or no cryptography
3. **Injection:** no protection against malicious input to the database
4. **Insecure Design:** flawed architecture, lack of threat modeling, secure design patterns, and reference architectures.
5. **Security Misconfiguration:** insecure component configuration that can be classified as security misconfiguration.
6. **Vulnerable and Outdated:** Operating system, CMS, web server, plugin, or library used by a plugin.
7. **Identification and Authentication Failures**: all kinds of flaws caused by authentication and/or session management errors.
8. **Software and Data Integrity Failures:** assumptions related to software updates, critical data, and CI/CD pipelines without verifying integrity.
9. **Security Logging and Monitoring Failures:** This category is to help detect, escalate, and respond to active breaches.
10. **Server-Side Request Forgery(SSRF) flaws:** occur when a web application fetches a remote resource without validating the user-supplied URL.

Source:
https://detectify.com/lpp/owasp?creative=606442759437&keyword=owasp%20top%2010&matchtype=b&network=g&device=c&gclid=CjwKCAiAoL6eBhA3EiwAXDom5gpGfbknZAhmgkHE8a6YGYnZiRqCp1GaNw8tvpCbCJQNqPai_uPqVRoCVKUQAvD_BwE

Milestones


SDG challenge
Design
Finishing the project
JAN
FEB
MAR
APR
MAY
JUN
Research fase
Implementation
Project hand-in

Thanks