Università Ca'Foscari Venezia

PROJECT ACRONYM AND TITLE: Client-side Security Enforcement for Mobile and Web Applications

FUNDING PROGRAMME: MIUR- DAAD Joint Mobility Program

CALL: MIUR- DAAD Joint Mobility Program

SCIENTIFIC FIELDS: Computer Science

HOST DEPARTMENT: Department of Environmental Sciences, Informatics and Statistics

SCIENTIFIC RESPONSIBLE: Riccardo Focardi

FINANCIAL DATA:

Project total costs	Overall funding assigned to UNIVE
€ 19,860.00	€ 19,860.00

ABSTRACT:
The digital society has seen in the last years a rapid shift towards mobile and web platforms, which constitute today the most popular means to conduct a number of daily activities, such as e-commerce, e-banking, e-health, and e-government. The number of processed confidential data and the sensitivity of performed transactions makes mobile apps a profitable target for criminal activities: as a matter of fact, popular app stores are infiltrated by malware trying to steal sensitive information (e.g., payment details and address book) or to perform unauthorized actions (e.g., calls to premium numbers), while most popular websites suffered at least once from security vulnerabilities that were exploited for malicious purposes (e.g., to perform online payments or to read credit card numbers). Finding effective defense mechanisms for mobile and web applications has thus major beneficial effects on everyone's life. Despite the recent research efforts in this field, users have at present no means to enforce rigorous security properties on the mobile and web apps they use on a daily basis.
The goal of this project is to design methods and tools, grounded in solid semantic foundations, to secure mobile and web apps on the user device. In particular, our techniques will analyze and monitor the executable code running on the phone (e.g., Dalvik bytecode and iOS native code) and on the browser (e.g., JavaScript), enforcing rigorous information flow policies as well as fine-grained access control rules.

Planned Start date	Planned End date
15th March 2016	31st December 2017

PARTNERSHIP:

1	Ca' Foscari University of Venice	Italy	Partner
2	Saarland University	Germany	Partner