Privacy by Design for User-Centered Apps and Applications (PraDAA)

“Euclid”
Algorithms and Privacy Research Unit

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Privacy-preserving participatory sensing

- **NoiseTubePrime**: NoiseTube + Privacy

IEEE COMPSAC 2012
JSS 2014
Demo

- Homomorphic encryption
- Cloud agents
  + Google cloud
  + Amazon
  + Cloudbees

http://polis.ee.duth.gr/NoiseTubePrime/
Pythia

- Non-invasive, privacy-preserving contextual suggestion
- Locations → Points of Interest (POI) → User Profile → Contextual Suggestion of POIs

IEEE COMPSAC 2015
Project Atlas
Automated POI (Point of Interest)–based profiling

Contextual Suggestion of POIs
“Euclid” Profile

- Algorithms and Privacy Research Unit (**Euclid**):
  - 1 Faculty member, 4 PhD Students, 5 MSc students, ca 10 undergraduate students

- Division of Software, Dept ECE:
  - 6 Faculty Members, ca. 15 PhD students,
  - Funding: over 4 million euro € (since 2010)

- Athena-Innovation Research Center (**Athena**):
  - 40 Tenured/tenure track researchers
  - 250 Affiliated Members, Researchers, PhD students, ...
  - Funding: over 7 million euro granted in H2020
Group’s Research Interests

- Privacy
  - Privacy by Design
  - Privacy-enhanced management of personal data, apps and applications based on personal data
  - Mobile Computing

- Algorithms
  - Algorithmic Game Theory
  - Opinion Dynamics and Social Influence
Projects

Recently completed:

- Advanced Tourism Planning (ATLAS), GSRT/CO-OPERATION project
  - Privacy-preserving, automated, non-invasive user profile generation
  - Privacy preserving contextual suggestions
- myVisitPlanner, Personalised System for Cultural Itineraries Planning, GSRT research grant 09SYN-62-112
  - Personalisation/recommendation – privacy enhanced architecture
- SPICE Space Internetworking Center – SPICE, FP7-REGPOT-2010-1, grant agreement no 264226
  - Steering Committee Member
  - Algorithms and Algorithmic Game Theory

Current projects (of the Division of Software)

1. UMOBILE, Horizon 2020: Universal, mobile-centric and opportunistic communications architecture
2. SENSkin, Horizon 2020: ‘SENsing SKIN’ for Monitoring-Based Maintenance of the Transport Infrastructure
Project Idea

- Privacy by Design for User-Centered Apps and Applications (PraDAA)
- In particular: Non-invasive privacy-preserving automated mobile user-profile generation
  - Figure out interests of a user, non-invasively, privacy-preserving
  - Example applications: tourism (Project Atlas), smart cities, participatory sensing, (personal) e-Health systems, etc.

- Some Potential calls:
  - Internet of Things, H2020-IOT-2016-2017
    - Topic: IoT Horizontal activities (Deadline: 12-04-2016)
    - Topic: Large Scale Pilots (Deadline: 12-04-2016)
  - Societal Challenges, H2020-DS-2016-2017
    - Topic: Assurance and Certification for Trustworthy and Secure ICT systems, services and components (Deadline: 12-04-2016)
Recent ICT Calls

- Privacy and Personal Data Protection a requirement in many topics

- ICT-18-2016
  - TOPIC: Big data PPP: privacy-preserving big data technologies
  - 12-04-2016 17:00:00

- ICT-35-2016
  - TOPIC: Enabling responsible ICT-related research and innovation
  - 12-04-2016 17:00:00

- and more ...
Thank you for your attention. Any questions?

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