

RECOMMENDATION OF PERSONALISED TOURIST RESOURCES

Motivation

- Interest in improving the tourist experience by means of personalisation and immersion
- Desire to improve knowledge in agent-based computing, mobile applications, recommendation, profiling, immersion, cloud computing and cloud storage

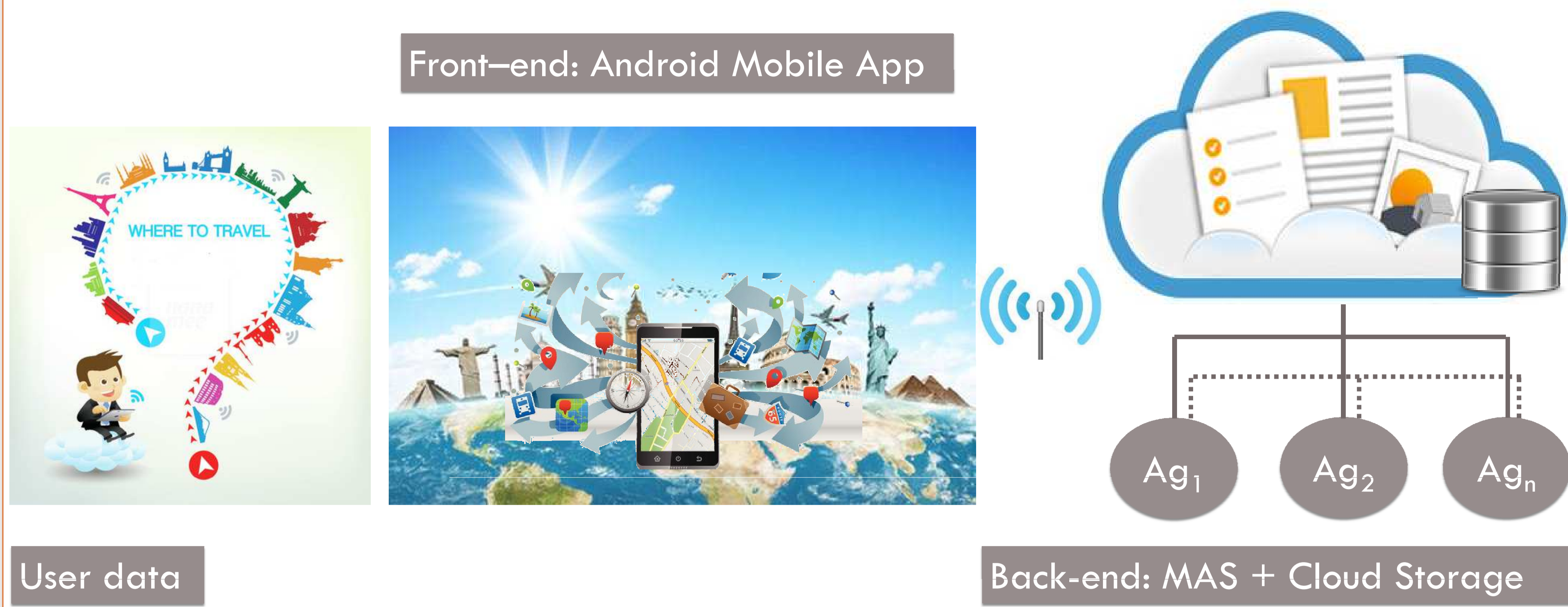
Methodology

- Research, analysis and comparison of profiling, recommendation and semantic enrichment techniques
- Survey, analysis and selection of PaaS solutions and MAS platforms

Objectives

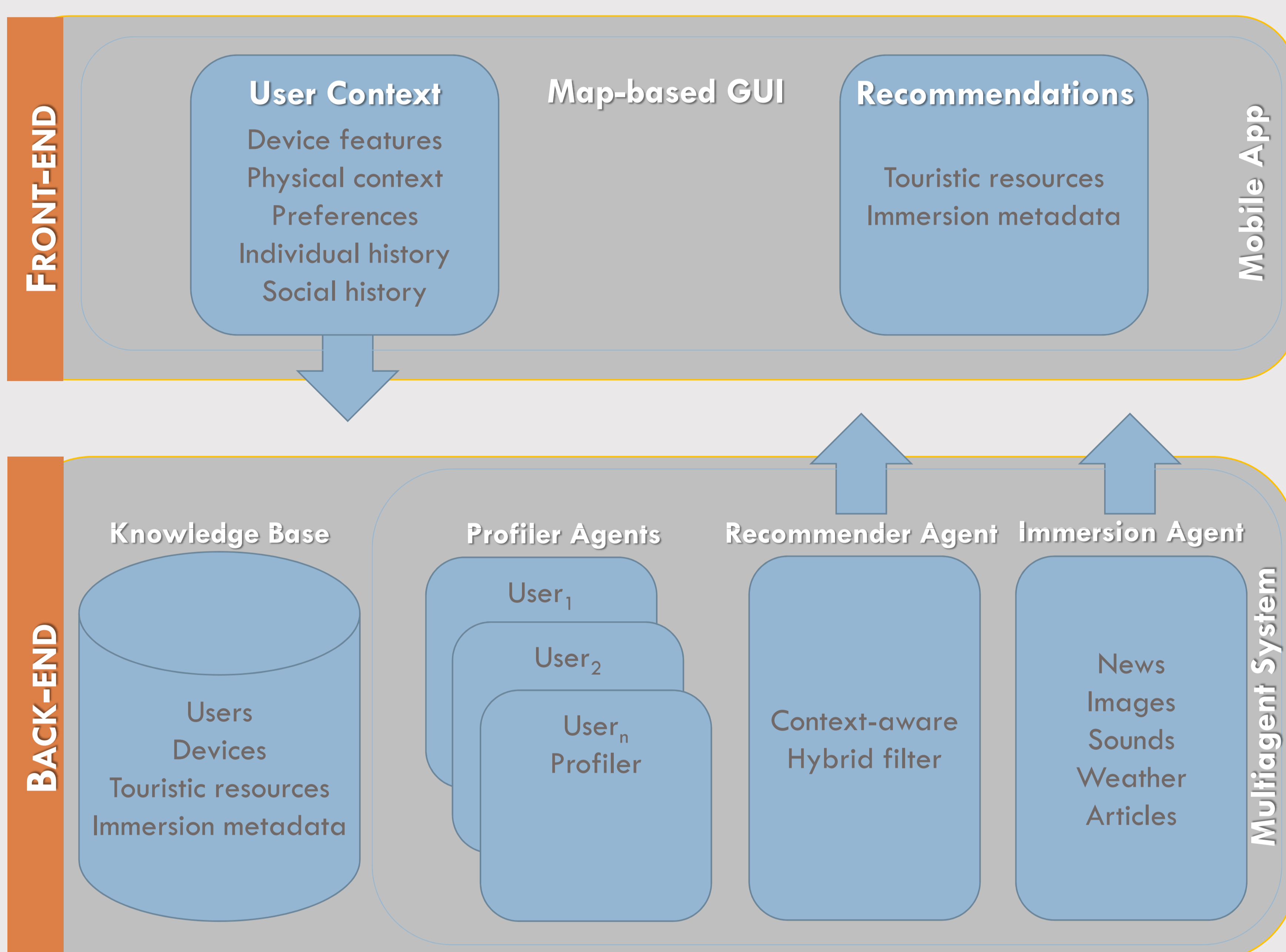
- Recommend personalised tourism resources in deferred and real time
- Mobile app front-end
- Agent-based cloud back-end: RESTful API + cloud storage
- Recommendation: hybrid filter
- Context-awareness: time, space, motion
- Profiling: age, gender, individual and social history, preferences
- Immersion: complementary news, weather, sound, images, articles

Architecture



Research Plan

Task	Period	Description
1	Apr 14	State of the art survey on agent-based computing, user profiling, recommendation and immersion
	Oct 14	Write the corresponding dissertation chapter
2	Aug 14	Representation of users, devices and resources (including immersion metadata)
	Dec 14	Specification of the system requirements, architecture, including functionalities and functional tests
3	Dec 14	Development and test of the user context acquisition module (mobile device)
	Mar 15	
4	Mar 15	Development and test of the user profiling module
	Jun 15	
5	Jun 15	Write the dissertation sections and a publication on the results of Tasks 1, 2, 3 and 4
	Sep 15	
6	Aug 15	Development and test of the personalised resource recommendation module
	Dec 15	
7	Dec 15	Development and test of the individual profiling, immersion and recommendation agent
	Apr 16	
8	Feb 16	Development and test of the user profiling and resource recommending multiagent system
	May 16	
9	May 16	Write the dissertation sections and a publication on the results of Tasks 7, 8 and 9
	Jul 16	
10	Jul 16	Develop, deploy and test the back-end node (multiagent system and persistent storage) in the cloud
	Nov 16	
11	Nov 16	Design, implementation and test of the front-end application (context acquisition and GUI)
	Mar 17	
12	Mar 17	Test, debug and evaluation of the results
	May 17	
13	May 17	Write the remaining dissertation chapters and a publication on the results of the Tasks 10, 11 and 12
	Jul 17	



Related Work Survey

	E-Tourism ^[1]	Tourist@ ^[2]	moreTourism ^[3]	COMPASS ^[4]	ATLAS ^[5]	CRUMPET ^[6]
Front-end	Browser	Mobile App	Mobile App	Mobile App	—	Mobile Service
Back-end	Web Service	MAS	Web App	Web Service	Web Service Geo-tagging Semantic Web	MAS
Context-aware	—	Location	Location	Location Weather Traffic Time	Space Time	Location
Profiling	Context Preferences	Context Preferences	Preferences	Context Preferences	Social history Preferences	Context Preferences
Recommendation	Hybrid (CBF+CF)	Hybrid (CBF+CF)	Hybrid (CBF+CF)	Context-based Knowledge-based	Hybrid (CBF+CF)	Constraint-based
Immersion	—	—	—	—	—	—

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FÁTIMA MANUELA SILVA LEAL¹, BENEDITA MALHEIRO², JUAN CARLOS BURGUILLO¹

¹DEPARTMENT OF TELEMATIC ENGINEERING, UNIVERSITY OF VIGO, SPAIN

²DEPARTMENT OF ELECTRICAL ENGINEERING, POLYTECHNIC INSTITUTE OF PORTO, PORTUGAL

fatimaleal2@gmail.com, mbm@isep.ipp.pt, J.C.Burguillo@uvigo.es