

UMOBILE QUARTERLY REPORT

Action full title: *Universal, mobile-centric and opportunistic communications architecture*

Action acronym: *UMOBILE*

Grant Agreement number: *645124*

Period covered: *M7 – M9 (August 2015-October 2015)*

A) UMOBILE achievements of the last reporting period:

WP1:

- UMOBILE 2nd internal management report was prepared and submitted to the Project Officer.
- 24/9/15 teleconference & IPR committee meeting - agenda and minutes preparation.
- 29/10/15 teleconference - agenda and minutes preparation.
- 2nd physical meeting preparation.
- Guidelines to the consortium for interim reports, periodic reports etc.
- Mailing lists maintenance.

WP2:

- Deliverable D2.1 “End-user requirements report” was submitted on 30/06/15. Use cases were defined and user requirements were extracted.
- Initial work on tasks T2.2 and T2.3 and corresponding deliverables D2.2 and D2.4.
 - High level definition of the UMOBILE architecture.
 - Continuation of the development of the PerSense mobile application and analysis on how to consider it in terms of the UMOBILE architecture as potential example of the definition in terms of system deployability design; validation of some initial aspects of this tool.

WP3:

- Initial research on Tasks 3.1, 3.2, and 3.3:
 - Research on the available ICN architectures and relative implementations, which are candidates for basing the UMOBILE platform.
 - Initial research on the requirements (in terms of software and operating system) for the UMOBILE platform, and the DTN aspect of UMOBILE devices.
 - Initial design of an architecture for mobile networks on “Keyword-Based Mobile Computing/Networking”.
 - Design of an appropriate service migration platform to migrate services.
 - Initial study on the possible services that the UMOBILE system can support.
 - Analysis of SCORP/dLife routing protocols in the context of the UMOBILE scenario.
 - Continuation of the work on the Oi application based on dLife, to exchange information opportunistically, in large-scale scenarios.

- Revision of previous initiatives in the field of opportunistic routing and possible association with the desired ICN approach.
- Preliminary simulation work on routing alternatives for the envisaged UMOBILE use cases.
- Analysis of the contextualization aspects of PerSense that can be integrated into the UMOBILE system and architecture for the specific scenario of social routine improvements.

WP4:

- Initial research on Tasks 4.1, 4.2, 4.3:
 - Study of relative works on the Quality of Service, and in particular in relation to the data routing function.
 - Research on Quality of Service requirements for the UMOBILE platform, and in particular for Information-Centric Network architectures.
 - Initial work on reusable platforms and interfaces for UMOBILE
 - Initial work on flow and congestion control.
 - Initial work on the implementation of an NFV service-chaining framework, acronymed DRENCH.
 - Work on the In-Network Resource Pooling Principle (INRRP).
 - Work on computational congestion control ideas.
 - Work on data collection and inference of affinity networks based on digital networking footprint.

WP5: - (not started yet)

WP6:

- Participation in ICNRG & ICN workshop and ACM ICN 2015 conference.
- Paper submission to IEEE Infocom.
- “Pervasive Data Sharing as Enabler for Mobile Citizen Sensing Systems (2015), Waldir Moreira and Paulo Mendes” was published in the IEEE Communications Magazine, October 2015.
- Paper submission to CCDWN workshop at CoNEXT on multi-source content delivery has been accepted for publication. The paper will be presented by Dr Vasilis Sourlas of UCL.
- Marketing of UMOBILE on ICT 2015 (October 20th-22nd, Lisbon).
- Dissemination of the project via the Senception Website and via social networks:
 - <http://www.sen-ception.com/#!news-and-press/cgf7>
 - <https://www.facebook.com/senception2013>
- Dissemination of the project via the DUTH Website and via social networks:
 - <https://www.facebook.com/Space-Internetworking-Center-SPICE-462553270445059/?ref=hl>
- Paper submission to ICSNC 2015 conference, presentation material preparation.
- Presentation on PerSense and how it shall be applicable in the context of UMOBILE.
- Presentation of Senception’s perspective of the different core issues of the UMOBILE architecture.
- Participation in the Interim meeting of the ICRNG in Yokohama Japan.

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- Participation in an ICN workshop organized by the NICT-Japan.
- Participation in the meeting “Early warning dell’emergenza e gestione efficace del soccorso”, organized by Agenzia per l’Italia Digitale.
- Facebook page update <https://www.facebook.com/UMOBILEproject/?fref=ts>

B) UMOBILE actions planned for the next 3 months:

WP1:

- Monthly teleconference is planned for 28/1/16. The second official consortium meeting will take place on 09-10/12/15.
- Internal management report submission.
- Guidelines.

WP2:

- Work on the Deliverables D2.2 and D2.4.
- Architecture-related discussions for the high-level system design.

WP3:

- Work on and finalization of the architectural design.
- D3.3 preparation and submission.
- Initial development of T3.2 based on the people-centric approach derived from the PerSense pervasive framework.
- Work on opportunistic routing approach.
- Work on Kebab-com/net.
- Work on the implementation of the service migration platform.
- Analysis of work on Task3.1, related to the usage of the DTN and ICN architectures on the UMOBILE abstraction layer.
- Work on Task3.3 related to the development of a first version of the UMOBILE forwarding scheme: focus on social-aware routing and a naming scheme.

WP4:

- Work on QoS and data collection.
- Implementation and performance evaluation of INRPP.
- Work on NFV service instantiation scheme.
- Work on name-base replication priorities.
- Design of the appropriate algorithms for computational congestion control.
- Validation of aspects of context derived from the PerSense tool and adjustment to UMOBILE.

WP5: -

WP6:

- Dissemination through social media & press releases.
- Submission of a conference paper concerning the PerSense framework.
- Participation in ICSNC conference.
- Deliverable 6.6 “Standardization plan” preparation/submission.

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- Potential submission of an Internet draft.
- Dissemination of UMOBILE on COPELABS Technical Retreat (Nov 12th – Nov 13th, Lisbon).

C) Problem/risk arose during this period, or any risk foreseen on the future and decisions taken to handle them:

FON is leading WP5 “Overall platform integration and validation” but does not participate in WP3 “System and node architecture design”. This causes concerns since they are responsible for the demonstration of the UMobile platform but have no involvement in the architecture definition. To mitigate this risk, FON will be directly involved in the architecture definition, possibly drawing resources from their work effort in WP2.

D) Resources used during the period in a project level:

(Double-click on the following table to edit cells in Excel)

WP	No of pms	Personnel Cost	Travel	Equipment	Other	Subcontracting	Subtotal	Indirect costs	Total costs
1	1,48	4856,85	0	0	0	0			
2	6,21	25969,04	0	0	0	0			
3	12,79	37911,44	0	0	0	0			
4	6,56	20431,46	0	0	0	0			
5	0	0	0	0	0	0			
6	2,43	8887,1	3659,58	0	0	0			
	29,47	98055,89	3659,58	0	0	0	101715,47	25428,87	127144,3

E) Short description for other direct costs:

UCAM travel costs for ACM ICN and ACM Aintec.

F) Deviation from Annex 2 and/or paragraph 2.3.5 including subcontracting:

TEKEVER consumed 1.3 personmonths in WP2 instead of the planned 1 personmonth. Since TEKEVER contributes to WP2 ongoing tasks, the Coordinator estimated that the deviation will be bigger and contacted TEKEVER.

G) Evaluation of the implementation of the project workplan: Gantt chart control, milestones and indicators:

The Project is implemented according to the plan. Specifically:

Period Milestones: MS1, MS11 and MS12 are accomplished. MS3 is expected on Month 14 according to the plan.

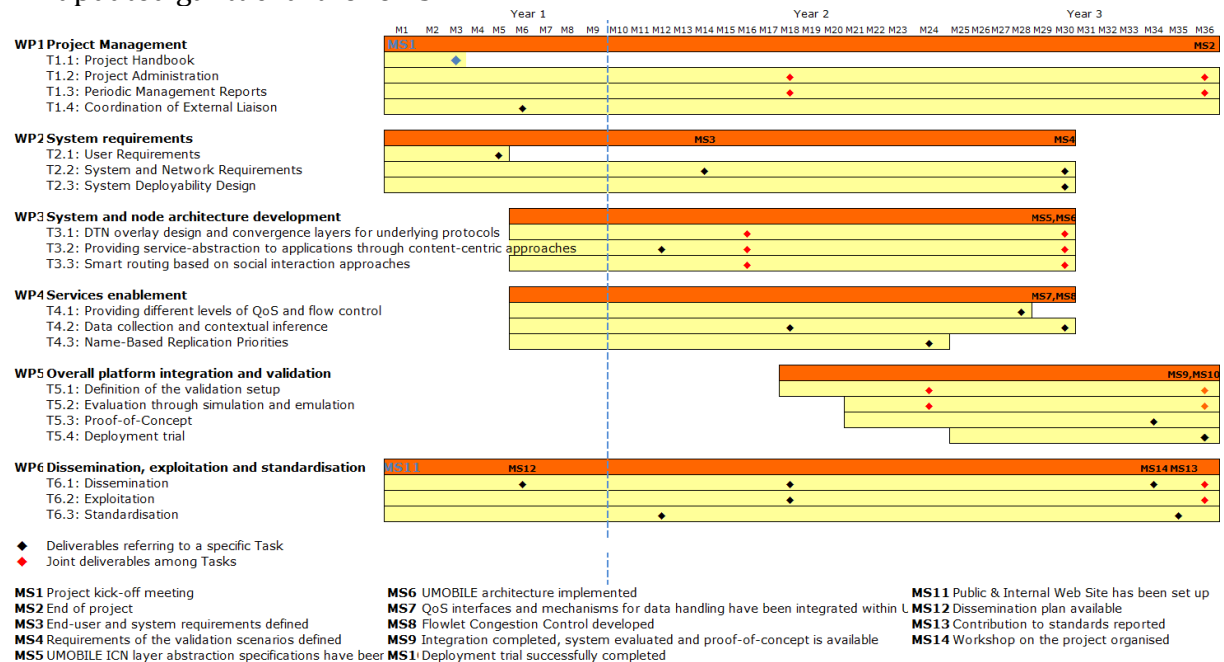
Period Deliverables: All deliverables are submitted according to the grant agreement timetable. D3.3 & D6.6 will be submitted by the end of Month 12.

UMOBILE Coordinator asked permission on the behalf of the consortium to submit "D4.1 Flowlet Congestion -Initial Report" on month 18, as described in page 22 of the grant agreement instead of Month 12 included in the deliverables tables. The change was accepted.

The table below summarizes the UMOBILE activities for the period August 2015-October 2015:

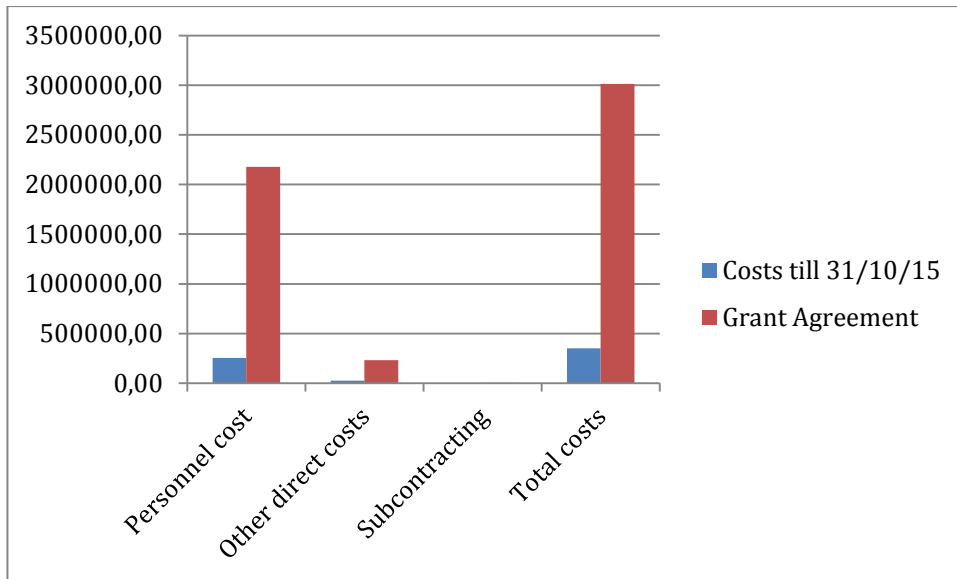
M..	Project Month	Meeting	Deliverable	Milestone	Report	Additional events
M7	August 2015	-	-	-	3monthly report for: M4 to M6	
M8	September 2015	teleconference: 24/9/15	-	-	-	
M9	October 2015	teleconference: 29/10/15	-	-	-	ICT 2015, ICN 2015, ICNRG meeting

An updated gantt chart follows:

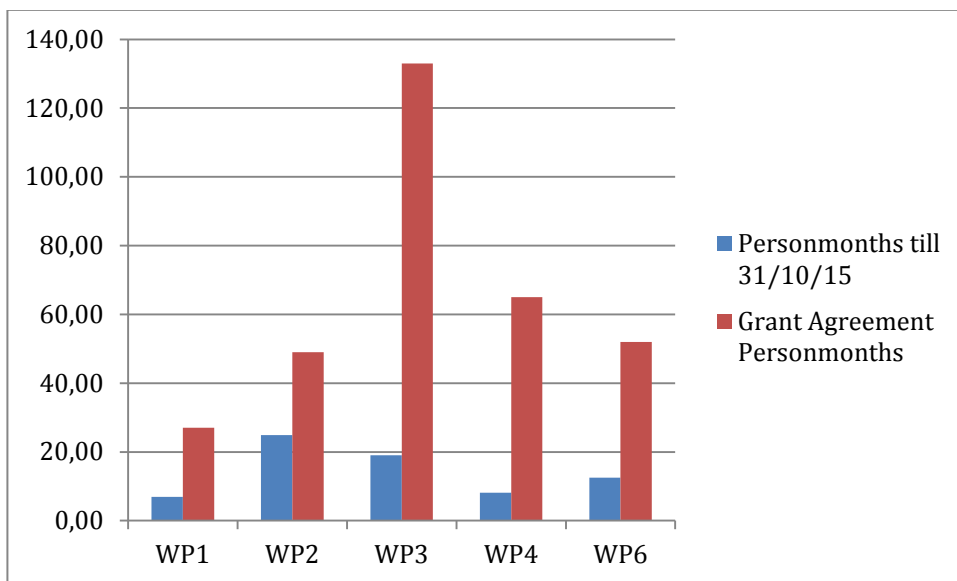


11.61% of total budget has been consumed for the activities described above (11.67% of the personnel costs, 11.12% of the other direct costs, 11.62% of the indirect costs), as presented in the following graph:

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15.79% of the personmonths have been consumed for the activities described above:



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This report was written by DUTH on the behalf of the UMOBILE consortium