

VIP Consortium

6-Month Reporting Form

Florida International University

The following form is designed for VIP Consortium Partners to report progress in establishing VIP programs; to discuss obstacles and successes; and to reflect on future directions.

Current Program at a Glance

To add additional rows to the tables below, please place your cursor inside the bottom row and press tab. When you tab out of the last cell, a new row will be added.

Teams		
Name	# Faculty	# Students
Informed Traveler Program and Applications (Informed Traveller)	3 (1 faculty and 2 staff members)	6* (4 grad and 2 senior students; all in SU15)
Smart Systems for Occupancy and Building Energy Control (Smart Buildings)	2 (both faculty members)	6* (2 grad and 4 senior students; 2 grads were in SP15 and SU15; 2 seniors in SP15 and 2 in SU15)
Touch-midAir-Motion Gesture Framework (Multi Touch)	2 (1 faculty and 1 staff members)	3* (all senior students; 1 in SP15 and 2 in SU15)
Promoting Startup Companies in South Florida (Startups : SkillCourt, Addegy, and nibbl)	5 (1 faculty and 4 industry members)	9* (all senior students; 3 in Addegy, 4 in SkillCourt, and 2 in nibbl; 3 in SP15 and 6 in SU15)
Virtual Labs (vLabs)	1	5* (all senior students; all in SU15)
Be On the Look Out (BOLO)	3 (1 faculty and 2 police department members)	4* (all senior students; 2 in SP15 and 2 in SU15)
VIP Tools : Project Management (PM), Collaborative Platform (CP), Mobile Judge (MJ), and Virtual Job Fair (VJF)	5 (2 faculty and 3 staff members)	18* (3 grad and 15 senior students; 7 in PM, 4 in CP, 4 in MJ, and 3 in VJF; 8 SP15 and 10 SU15)

** The numbers include participants in both Spring 2015 and Summer 2015 semesters.*

Team Advisors			
Name	Faculty or Staff	Department	Team Name
Naphtali Rishe	Faculty	SCIS	Informed Traveller
Gerald Inberg	Staff	SCIS	Informed Traveller
Martha Gutierrez	Staff	SCIS	Informed Traveller
Leonardo Bobadilla	Faculty	SCIS	Smart Buildings

Ali Mostafavi	Faculty	School of Construction	Smart Buildings
Naphtali Rishe	Faculty	SCIS	Multi Touch
Francisco R. Ortega	Staff	SCIS	Multi Touch
S. Masoud Sadjadi	Faculty	SCIS	Startups
Jaime Borrás	External	Skill Court	Startups
Guðmundur Traustason	External	Skill Court	Startups
Jason Dettbarn	External	Addegy	Startups
Benjamin Lavalley	External	nibbl	Startups
S. Masoud Sadjadi	Faculty	SCIS	vLabs
Juan Caraballo	Faculty	SCIS	BOLO
Chief Samuel Ceballos	External	Village of Pinecrest	BOLO
Major Jason Cohan	External	Village of Pinecrest	BOLO
S. Masoud Sadjadi	Faculty	SCIS	VIP Tools
Juan Caraballo	Faculty	SCIS	VIP Tools
Fernando Figueredo	Staff	Career Services	VIP Tools
Ivette Duarte	Staff	Career Services	VIP Tools
Emmanuela Pierre Stanislaus	Staff	Career Services	VIP Tools

TAs/RAs Supported by Helmsley Funds		
Name	Department	Team Name
Mohsen Taheri	School of Computing & Information Sciences	VIP Tools

Students						
Team Name	Freshmen	Sophomores	Juniors	Seniors	Grad Stud	Team Total
Informed Traveller				2	4	6*
Smart Buildings				4	2	6*
Multi Touch				3		3*
Startups				9		9*
vLabs				5		5*
BOLO				4		4*
VIP Tools				15	3	18*

* The numbers include participants in both Spring 2015 and Summer 2015 semesters.

Curricular Rules				
Department	College	Policies/Rules on Credit Use		
		Discussed	Proposed	Approved
School of Computing & Information Sciences	College of Engineering & Computing	Senior Project and New VIP Courses	Planned for early Fall 2015	Planned for late Fall 2015
School of Construction	College of Engineering & Computing	Independent Study and	Planned for early Fall 2015	Planned for late Fall 2015

		senior project		
Electrical Engineering	College of Engineering & Computing	Independent Study and senior project	Planned for early Fall 2015	Planned for late Fall 2015
Department of Architecture	College of Architecture + The Arts	Independent Study and New VIP Courses	Planned for early Fall 2015	Planned for late Fall 2015

Note: The VIP award was announced in February 2015 and the budget was received in our accounts late in April 2015. Therefore, there was not sufficient time to discuss new course proposals in Spring 2015. We could not propose courses in summer either as most of our faculty members travel or are not available on campus during summer. So, we decided to discuss the new course proposals at the first faculty meetings of the targeted schools and department in early Fall 2015 and get their approvals before the end of the semester. We should be able to offer new VIP courses in Spring 2016. In the meantime, we are and will be using independent study and senior project courses/credits for students who will be participating in our VIP projects.

Past, Present & Projections

Past, Present & Projections							
	Spring 2015	Fall 2015	Spring 2016	Fall 2016	Spring 2017	Fall 2017	Spring 2018
# of Teams	7*	7**	8	9	10	11	12
# of Faculty Instructors	5*	7**	8	9	10	11	12
# of Departments w/ Instructors	2*	4**	5	6	7	8	9
# of Students	51*	55**	60	65	70	75	80
# of Departments Considering Credit Policies	0*	4**	1	1	1	1	1
# of Departments w/ Approved Credit Policies	0*	0**	4	5	6	7	8

* The numbers include participants in both Spring 2015 and Summer 2015 semesters.

** Starting in Fall 2015, we will mainly focus in strengthening and fully establishing our existing VIP projects and enhancing them with more instructors and students from other related departments and schools at FIU. At the same time, we will make an effort to add at least one new VIP team, one new instructor, and one new department to our pool of VIP contributors per semester.

Program Implementation and Results:

In answering the following questions please describe key changes and events that took place over the last 6 months

Implementation, Initial Experiences, and Outcomes

1. Please describe steps taken toward institutionalization of VIP. Institutionalization applies to new processes, policies and structures that will likely continue beyond the funding period.

In April 2015, we hold a two-day VIP workshop at FIU during Dr. Ed Coyle's visit and invited all the faculty members and students who were involved with VIP projects in Spring 2015 and those who intended to get involved with VIP in near future. Dr. Ed Coyle shared his vision and experience regarding institutionalizing the VIP program at Georgia Tech and we discussed at length how we could make use of what we have learned from Georgia Tech to successfully institutionalize VIP at FIU. The School of Computing & Information Sciences Director, Dr. Ram Iyengar, Associate Director, Dr. Mark Weiss, Graduate Director, Dr. Tao Li, Graduate Advisor, Mr. Carlos Cabrera, and Undergraduate Director, Dr. Nagarajan Prabakar were invited to this meeting and they all participated in the discussion. The outcome of this discussion was a step-by-step approach in getting VIP courses proposed and approved at our school. To expand our reach to the college and university level, Dr. Sadjadi met with the former Dean of College of Engineering & Computing, Dr. Amir Mirmiran, and the FIU Provost, Dr. Kenneth Furton, in separate meetings and argued about the importance of the VIP project in reforming higher education at our college and at FIU, respectively, which was well received by both the dean and the provost. Dr. Sadjadi will follow up with the new Dean of our ECE College, Dr. Ranu Jung, and the FIU Provost in Fall 2015 to work on details of how to create new college-wide and university-wide VIP courses so that all students from our college and from FIU can participate in our VIP projects in the near future and receive relevant credits for their participation. In the meantime, we will use independent study and senior project courses/credits to engage students from different majors in our existing VIP projects.

2. Please describe any technology challenges you have encountered.

None! We have adopted some tools (e.g., Mingle from ThoughtWorks and GitHub) and where needed we have been developed tools to manage our VIP projects (e.g., VIP Project Management Web Site). We intend to continue the development of our VIP tools and share them with the rest of our partners in the VIP consortium. Some of the tools are ready to be used and some are still under development. We intend to improve the tools continuously based on the feedback that we will receive from the VIP consortium and the open source community.

3. Please describe your strategies for departmental/college approval on how VIP credits can be used to fulfill degree requirements.

We have engaged the FIU Provost, Dr. Kenneth Furton, the former Dean of College of Engineering & Computing, Dr. Amir Mirmiran, the School of Computing & Information Sciences Director, Dr. Ram Iyengar, Associate Director, Dr. Mark Weiss, Graduate Director, Dr. Tao Li, Graduate Advisor, Mr. Carlos Cabrera, and Undergraduate Director, Dr. Nagarajan Prabakar. During Dr. Ed Coyle visit to FIU, we invited them to meet with the FIU VIP Director, Dr. Masoud Sadjadi, and the Georgia Tech VIP Director, Dr. Ed Coyle, to discuss how VIP can become successful at FIU. Dr. Ed Coyle shared his experience with creating VIP courses at Georgia Tech. A follow up discussion with the administration resulted in some action items on how to proceed with the new VIP course proposals to be discussed in the first faculty meetings in Fall 2015 in the targeted schools and departments at FIU. The detailed proposals and plan of action are due by the end of Summer 2015.

4. Please describe faculty receptiveness to the VIP model and program.

Our faculty members at the School of Computing & Information Sciences (SCIS) and in from the College of Engineering & Computing (ECE) appear to be more receptive of the VIP model and program than those from other departments and colleges at FIU. All the schools and departments at ECE have a capstone course called either senior design or senior project that shows the importance of teamwork and hands-on experience through realistic semester-long projects is well understood and acknowledged by both the faculty members and students in ECE. However, even though it may not be as hard as convincing other schools and departments outside ECE, it is still an uphill battle when we need instructors to lead new VIP projects. We need to find incentives to engage them in the process. One idea is to take away one course from their annual assignment when they start a new VIP team, but it still needs convincing the Chairs, Directors, and the Deans of their corresponding colleges to comply with this offer. Also, faculty members from different departments may still question when it comes to the point of awarding credits to their students for participation in VIP projects, which may not seem to be directly related to the goals and outcomes of their respective programs. We plan to visit the heads and faculty members of at least two department each semester and attend their faculty meetings to introduce the VIP program to them and let them know how supporting this program can expand the horizon of learning for their students and how much it would be helpful in finding jobs when they are ready to start their careers after their graduation from FIU.

5. Please describe any changes in your approach to VIP program implementation, especially approaches and/or models that bring a new dimension to the VIP consortium.

We decided to have a smooth start for implementing the VIP program at FIU. First, we started by engaging all of our computer science senior project students in multi-semester, multi-disciplinary projects that involve advisors and mentors both from academia and industry. Second, we plan to expand the VIP program to the other schools and departments at our college (ECE) by engaging their students and faculty members in

our established VIP projects. Third, we plan to expand our program to the other departments and schools outside our college and engage motivated instructors from other colleges to lead some new VIP teams. At this phase, we plan to engage at least one new VIP project, one new instructor, and one new department each semester for the remaining duration of our VIP project. In addition, we will make a strong attempt to maintaining the already created and established projects. We believe that once our projects are well established, we can guarantee the continuation of the program well beyond the funding period.

6. Please describe successes that you have had in your VIP implementation and program activities.

Leveraging the already established multi-semester, and in some cases multi-disciplinary, projects in our computer science senior project course at SCIS, we have been able to start with seven VIP teams right at the beginning. We acknowledge that not all of the seven projects qualify as full-blown VIP projects, but rest assured that we are consciously attempting to address those known issues (e.g., not all of our seven projects are multi-disciplinary at the moment, but they all have the potential to become multi-disciplinary in the near future). To satisfy this requirement, instead of adding many more projects each semester, we intend to spend our time and energy in addressing the issues in our existing VIP projects, evolving them into fully qualified faculty-led, multi-year, multi-disciplinary VIP projects.

7. Please list any accepted conference abstracts, conference proceedings, academic or other publications that have resulted from your VIP Program.

- Mohsen Taheri, S. Masoud Sadjadi, "A Feature-Based Tool-Selection Classification for Agile Software Development," International Conference on Software Engineering and Knowledge Engineering (SEKE 2015) 6-8 July 2015, Pittsburgh, USA.
- Mohsen Taheri, S. Masoud Sadjadi, "A Comparative Classification for Cloud-Based Agile Software Development Tools," IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2015) 21-25 September 2015, Cambridge, MA, USA. (Under review)

Evaluation

Consortium partners are approaching evaluation of VIP in different ways. Some institutions are monitoring their teams and plan to implement consortium evaluation tools, while others have budgeted funds in their subawards for local evaluation efforts. Regardless of your approach, the questions below will still be applicable.

8. Please describe the name and the status (in development, used, etc.) of data systems used to track VIP.

We are developing a number of VIP Tools and have already adopted some other tools to manage and track our VIP projects. Specifically, for managing the VIP projects, we are currently developing the Project Management Web Site that helps students with their applications to join our existing VIP teams and our instructors with their proposals for new VIP projects. This tool can also help the VIP program coordinator to review the applications and project proposals, notify the applicants and proposers with the outcome of the review process, and facilitate the project assignments based on the interest of the students, their skillset and qualification to work in different teams, and the history of their involvements with the other VIP projects, if any. For managing the development of our VIP projects, we have adopted Mingle from ThoughtWorks as our scrum/agile project management tool and GitHub as our version control tool.

9. Please describe the ways in which you monitor activities and performance of VIP on your campus.

We use scrum, a popular agile approach, to manage our VIP projects at FIU. We have adopted and configured Mingle from ThoughtWorks to satisfy all the needs for monitoring the activities including the creation of user stories, bi-weekly sprint review and planning, and semester-long release planning. We use shared Google Docs for taking minutes from our daily scrum meetings. All team members meet over Skype for their daily scrum meetings on weekdays from Monday to Friday for 10 to 30 minutes, depending on the size of the team, to report what each team member did since the last scrum meeting, what is planned to be done until the next scrum meeting, and whether there is any hurdles. One of the team members with more experience is designated as the scrum master who coordinates the meetings and attempts to resolve hurdles, if any. We strongly encourage our faculty instructors and other stakeholders and mentors from academia and industry to attend as many daily scrum meetings as possible. We note that attending the bi-weekly sprint review and planning sessions is required for everyone involved in the project. Such meetings are expected to take less than two hours.

10. Please describe how you are monitoring your VIP program for progress, success, and areas for improvement. Be sure to note whether your site has implemented evaluation tools for VIP (surveys, questionnaires, focus groups, etc.). Please also indicate the contact person for these activities.

We hold two bi-weekly meetings, one that evaluates the progress on the project's expected outcome/deliverables and the other that evaluates the development process and the team performance itself. The first one is called *sprint review meeting* that is attended by everyone involved in the project. This is basically a show-and-tell meeting during which students present what they have done during the past two weeks and the corresponding stakeholders such as product owner would either accept or reject the validity of each deliverable. The second meeting is called *sprint retrospective meeting* that is attended only by the development team members to discuss the process in which the project development was conducted, to evaluate the performance of the team as a whole, and the performance of each individual team member. During this meeting, the attendees discuss what went wrong in the past sprint, which should be avoided in the future, what went right, which should be continued in the future, and what else needs to be practiced, which should be encouraged and enforced in the future. We have developed surveys and questionnaires to be filled by each team member at the beginning of each sprint retrospective meeting. Each team member is asked to evaluate themselves and their other team members' interactions and performance during the past two weeks. The surveys and questionnaires are anonymous and are merely used to start and guide the discussions throughout the sprint retrospective meetings. The contact person for these activities is Masoud Sadjadi, the FIU VIP Director.

11. Please describe whether/how you have interacted with the evaluation team, and the status of data sharing with the evaluation team. Be sure to indicate any issues or challenges in this process.

We have not yet been approached by the evaluation team outside what was included during our two-day meeting at Georgia Tech in May 2015. It is worth noting that the evaluation meetings we attended during our visit to Georgia Tech were very informative and constructive. We are looking forward to working more closely with the evaluation team upon their next interaction with us. In the meantime, we will continue with the evaluation of the performance of our VIP teams and the evaluation of our development processes through our bi-weekly sprint review and retrospective meetings.

Partnerships

12. Please describe VIP-industry partnerships you are considering, pursuing or have established.

- IBM has been a long supporter of our research and educational activities at FIU. We have been working very closely with IBM since 2005 and have received several faculty awards and other donations and awards from IBM in the past 10 years. IBM is currently sponsoring the Collaborative Platform Tool, which is one of the tools being developed for the VIP consortium.
- Ultimate Software is a local software company that has hired many of our students over the years and has granted a number of awards to our school. They have sponsored some of our senior projects in the past and will participate in the VIP projects too.
- Kaseya has been our school's partner and sponsor since 2008. Kaseya has hired many of our students and have donated software and cash to further our efforts in research and education. They have sponsored the vLabs project and will be involved with the VIP projects too.
- Village of Pinecrest has been a long-time sponsor of our senior projects. Most recently, we defined BOLO as a VIP project and so far it has been proven to be a very successful and high profile project. It is planned to be deployed for production use at the Village of Pinecrest Police Department and is expected to expand to the whole Miami-Dade County in the near future.
- Addegy is a startup company and a spinoff of Kaseya that has sponsored some of our senior projects and have hired one of our students so far. Addegy has started generating revenue and is on its way to success. We are proud to have impacted in its early success and expect to continue this partnership for the foreseeable future.
- SkillCourt is a startup company with a brilliant vision on developing training sport courts covered with tile pads equipped with sensors to help soccer players learn new skills through coach-led customized routines. They have sponsored a senior project in the past and are expected to participate in our VIP projects.
- nibbl is a innovative startup that is attempting to combine online social media with in-person dinning events, bringing the best of the two social worlds in one slick software solution. nibbl has just started with us and we are hoping to help them get up to speed and become successful in the near future. nibbl is expected to participate in our VIP projects.

13. Please describe any partnerships or collaborations on your campus that may help to enhance your VIP Program.

- Informed Traveller is a collaborative project between the School of Computing & Information Sciences and the OHL School of Construction at FIU. This project aims to provide valuable traffic and parking information to the FIU community at its main campus and to the adjacent Sweetwater city commuters. We have already started a VIP team for this project and we expect to see its success in the near future. We

plan to grow the number of students and faculty members involved in this project in Fall 2015.

- Smart Building is a collaborative project between the School of Computing & Information Sciences and the OHL School of Construction at FIU. This project aims to facilitate the energy conservation in buildings by rewarding good behavior in saving energy. The extensive use of hardware sensors and mobile software applications has made this project a great candidate for our VIP program. We have already started a VIP team that involves two faculty members and six students. We expect to see the success of this project in the near future.
- Personalized NanoMedicine is a collaborative research project mainly between the faculty members in the Department of Electrical and Computer Engineering at the College of Engineering and Computing and the Department of Immunology at Herbert Wertheim College of Medicine at FIU. It involves researchers at other colleges within FIU and across the globe. Personalized Nanomedicine aims to tailor medical intervention to patient- and disease-specific needs. The focus of the project is to conduct cross-disciplinary research towards the development of groundbreaking nanomedical devices and systems for superior diagnostics and treatment. We intend to start a VIP project for Personalized NanoMedicine in Fall 2015.
- iCave is a collaborative project between the School of Computing & Information Sciences and the Department of Architecture at FIU. The project aims to develop an integrated-computer augmented virtual environment laboratory that will be used for research and educational purposes at FIU. Currently, the project leaders are in the process of purchasing and installing the equipment. We expect to introduce the first iCave-related VIP project in Spring 2016.
- Virtual Job Fair is a collaborative project between the School of Computing & Information Sciences and the Career Services at FIU. This collaborative effort is going to develop a VIP tool that helps our VIP participants to find internship opportunities while participating in our VIP projects and land on best job positions possible when they graduate from our program and are ready to start their careers.

Students

14. What is your system for recruiting students for VIP? Are you experiencing any challenges specific to this recruitment?

So far, we have only recruited students from the School of Computing and Information Sciences and School of Constructions and mostly through our efforts in the Computer Science Senior Project program. We intend to expand our recruitment efforts to the other schools and departments at the College of Engineering & Computing in Fall 2015. We have been developing a VIP tool for managing the VIP projects that will be very useful when it comes to gathering and processing of students' applications. For announcing the VIP projects, we will be using different mailing lists and bulletin boards within the college and throughout the FIU campuses to attract more students from other disciplines to our existing VIP teams.

15. How are you recruiting underserved populations for VIP (gender/race/ethnicity)?

At FIU, more than 56% of our student body is female and more than 77% of our student body is Hispanic or African American. However, in CS/IT, only 14.4% of our student body is female, while 77% of our student body is Hispanic or African American. We believe that we can attract a high percentage of Hispanic and African American students due to the nature of our student body. We will partner with our Women in Computer Science (WiCS) group to ensure that all of our female students are aware of the VIP program and its place in their career development; we hope that this will lead to higher female participation. The FIU SCIS advising team will also help us get the word out about the VIP program; we will leverage their connections to other advising teams on campus as we expand beyond computer science.

16. If funds from this award have been used to support graduate students, either as teaching assistants or research assistants, please describe their contributions to the program.

Mohsen Taheri is a first year PhD student at the School of Computing & Information Sciences under the advisement of Prof. Masoud Sadjadi, who is the Director of the FIU VIP Program. Since Spring of 2015, Mohsen has been contributing to the research and development of agile approaches to manage our VIP teams. He has already published one paper at a conference and has submitted another one, which is still under review (see the answer to the question #7 for the complete citations of these two papers). One direct outcome of his work so far was the successful selection of appropriate agile software development tools to help us monitor the progress of our VIP projects. Specifically, we used his approach to choose Mingle and GitHub for managing our VIP teams. Mohsen will continue his research in this area by closely monitoring and studying our VIP projects and providing insights on how to improve their efficiency and performance.

Attachments

Please attach:

- CV's for faculty and profiles/bios/resumes for staff supported by the subaward.
- CVs/Profiles/bios/resumes for Teaching Assistants and Research Assistants supported by the subaward.

S. Masoud Sadjadi

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Professional Preparation

University of Tehran	Computer Hardware Engineering	B.S. (1995)
Tehran Azad University	Computer Software Engineering	M.S. (1999)
Michigan State University	Computer Science	Ph.D. (2004)

Appointments

2014-present	Director of Professional Masters of Science in Information Technology, School of Computing and Information Sciences, Florida International University.
2010-present	Associate Professor of Computer Science, School of Computing and Information Sciences, Florida International University.
2004-2010	Assistant Professor of Computer Science, School of Computing and Information Sciences, Florida International University.
2000-2004	Graduate Assistant, Department of Computer Science and Engineering, East Lansing, Michigan.
1996-1999	Project Manager, Iran University Press, Tehran, Iran.
1992-1995	Software Developer, Tebb Va Rayaneh Corporation, Tehran, Iran

Publications

Five most closely relevant to the proposed project

- Mohsen Taheri, **S. Masoud Sadjadi**, "A Feature-Based Tool-Selection Classification for Agile Software Development," International Conference on Software Engineering and Knowledge Engineering (SEKE 2015) 6-8 July 2015, Pittsburgh, USA.
- **S. Masoud Sadjadi**, Philip K. McKinley, and Betty H.C. Cheng. Transparent shaping of existing software to support pervasive and autonomic computing. In *Proceedings of the first Workshop on the Design and Evolution of Autonomic Application Software 2005 (DEAS'05), in conjunction with ICSE 2005*, St. Louis, Missouri, May 2005.
- **S. Masoud Sadjadi** and P. K. McKinley. Using transparent shaping and web services to support self-management of composite systems. In *Proceedings of the International Conference on Autonomic Computing (ICAC'05)*, Seattle, Washington, June 2005.
- **S. M. Sadjadi**, P. K. McKinley, "Transparent Self-Optimization in Existing CORBA Applications," In *Proceedings of the International Conference on Autonomic Computing (ICAC-04)*, pp. 88-95, New York, NY, May 2004.

- **S. M. Sadjadi** and P. K. McKinley. "ACT: An adaptive CORBA template to support unanticipated adaptation," In *Proceedings of the 24th IEEE International Conference on Distributed Computing Systems (ICDCS-24)*, Tokyo, Japan, March 2004.

(ii) Five other significant publications

- **S. M. Sadjadi**, P. K. McKinley, E. P. Kasten, "Architecture and Operation of an Adaptable Communication Substrate," In *Proceedings of the Ninth IEEE International Workshop on Future Trends in Distributed Computing*, San Juan, Puerto Rico, May 2003.
- Philip K. McKinley, **S. M. Sadjadi**, Eric P. Kasten, and Betty H. C. Cheng. Composing adaptive software. *IEEE Computer*, pp. 56-64, July 2004.
- P. K. McKinley, U. I. Padmanabhan, N. Ancha and **S. M. Sadjadi**, "Composable Proxy Services to Support Collaboration on the Mobile Internet," *IEEE Transactions on Computers (Special Issue on Wireless Internet)*, pp. 713-726, June 2003.
- Z. Zhou, P. K. McKinley, and **S. M. Sadjadi**, "On quality-of-service and energy consumption tradeoffs in fec-enabled audio streaming," In *Proceedings of the 12th IEEE International Workshop on Quality of Service (IWQoS'04)*, Montreal, Canada, 2004.
- P. K. McKinley, **S. M. Sadjadi**, E. P. Kasten, and R. Kalaskar, "Programming Language Support for Adaptable Wearable Computing," In *Proceedings of the Sixth International Symposium on Wearable Computers (ISWC'02)*, Seattle, Washington, 2002.

Synergistic Activities

- Leading the NSF PIRE Project at FIU for seven years during which I could send more than 100 students and faculty members to 14 Countries spanned in 5 continents to participate in some important collaborative research projects.
- Changing the structure of computer science senior projects to involve real projects from industry and academia and to follow scrum agile software development process.
- Leading a prototype implementation of the Communication Virtual Machine, a project that involves 7 faculty members, and more than 20 students.
- Development of new research tools for Transparent Shaping: *TRAP.NET*, *TRAP/J*, *TRAP.BEPL*, *ACT/J*, *MetaSockets*, and *ASA*, used by many researchers.

Collaborators & Other Affiliations

Collaborators and Co-Editors: N. Ancha (Ericsson IP Infrastructure in Raleigh), B. H.C. Cheng (Michigan State University), R. Kalaskar (Aethon Inc. in Pittsburgh), E. P. Kasten (Michigan State University), P. K. McKinley (Michigan State University), U. I. Padmanabhan (Microsoft Corporation in Redmond), J. Sowell (Michigan State University), R. E. K. Stirewalt (Michigan State University), Z. Yang (Michigan State University).

Graduate Students: Onyeka Ezenwoye (4th year PhD Student), Eduardo Monteiro (1st year PhD Student), Eric Sanchez (MS Student), Yasmery Hernandez (MS Student).

Thesis Advisor: Professor Philip K. McKinley (Michigan State University).

Biographical Sketch

Gerald Inberg

Manager, Transportation IT R&D, I/UCRC

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A. PROFESSIONAL PREPARATION

<u>College/University</u>	<u>Major</u>	<u>Degree &Year</u>
Devry Institute of Tech., Chicago, Ill.	Electronic Engineering	BSEE, 1977
DePaul University, Chicago, Ill	Computer Science	MSCS, 1981
University of Chicago, Chicago, Ill.	Business	MBA, 1989

B. ACADEMIC/PROFESSIONAL APPOINTMENTS

Project Manager, NSF Industry-University Cooperative Research Center	9/2014 - Present
Head of hiQ8000 Softswitch Development, Nokia Siemens Networks	4/2007 – 6/2012
Director, Software Development, Siemens AG	5/1992 – 4/2007
SW Development Engineer, Manager, AT&T Bell Laboratories	9/1977 – 5/1992

C. PRODUCTS

(i) Most Closely Related to Proposal

Gerald A. Inberg, Roy E. Anderson, Dennis J. Mikalauskas, and Genevieve L. Nawa, US Patent # 4,755,995: Program Update in Duplicated Switching System, July 5, 1988

Donna M. Baron, David E. Espenlaub, Vicki A. Haines, Gerald A. Inberg, Steve A. Shilling, James B. Truesdale, and Robert J. Willett; US Patent # 4,635,187: Control for a Multiprocessing System Program Process, January 6, 1987.

D. SYNERGISTIC ACTIVITIES

The following activities were executed at Nokia Siemens Networks (NSN) and Siemens AG demonstrating both management and project management of commercial products:

- Multi-Site International Management, Nokia Siemens Networks (NSN): Managed up to 250+ global staff in 5 countries on 3 continents; controlled 20+ Million Euro annual R&D budget and successfully produced softswitch releases and feature packs that supported over 100 customers and 36 million lines worldwide. Re-organized the Voice over IP Software Development organization in order to adapt to the needs of the new joint venture company (NSN), re-structured the organization in order to move work and responsibilities from high-cost to low-cost countries and successfully moved leadership to Athens, Greece.
- Cost Center Management (NSN): Oversaw the hiQ 4200/8000 development budget worldwide including headcount, operating expenses and capital expenditures reducing the quarterly expenses by consolidating development centers, cutting infrastructure costs and doing more remote testing between development centers.
- Quality Leadership (NSN): Have significant experience with various development processes over the entire lifecycle of a number of product lines. Introduced Agile Methodology at NSN which increased flexibility, improved time to market, and provided an enhanced development

environment that adapted to a rapidly changing market and which resulted in delivering a more complete product earlier in the release and improved the overall communication throughout the development lifecycle. Introduced new quality measures and tools that ensured continual improvement of the development processes and product (e.g., Root Cause Analysis, Patching, test automation, Coverity static code analysis, Codestriker for inspection, storage and statistics, etc.).

- Multi-Site International Organization (Siemens AG): Trained engineers in the development of the hiQ softswitch products and software development methodologies, introduced new organizations by setting up supervisory groups around system SW functionalities, set up development test beds on site, and wrote the statement of work (SOW) identifying deliverables, processes to be used, goals and objectives to be met and metrics to be used to track progress.
- Project Management (Siemens AG): Led numerous projects from inception to the delivery to the customer. In particular, was project manager of the hiQ8000/4200 softswitch's Release 9.0 that introduced this product outside the US market. This work included working with Product Line Management to define the feature set, making assignments to groups in Lisbon, Athens, and the US and managing the feature through the delivery to customers worldwide. This resulted in this release becoming the flagship product in Europe, Asia and South America where ETSI standards are essential for softswitch deployment.

E. COLLABORATORS AND OTHER AFFILIATIONS

Collaborators and Co-Editors:

Naphtali Rishe (Florida International University), Oliver Ullrich (Florida International University), Benjamin Brandt (Florida International University), Scott Graham (Florida International University), Hari Kalva (Florida Atlantic University) and Daniel Lückerrath (Florida International University).

Graduate and Postdoctoral Advisors: N/A

Thesis Advisor and Postgraduate Scholar Sponsors over the Last Five Years: N/A

Scott C. Graham

School of Computing and Information Sciences
Florida International University, Miami, FL 33199
Tel: (305) 348-3946 - Fax: (305) 348-3549
Email: grahams@cs.fiu.edu

Professional Preparation

University of Florida	Computer and Information Engineering Science	B.S.E. with honors, 1989
Florida International University	Computer Science	MS, 1992
Florida International University	Computer Science	PhD, 2004

Academic Appointments

- 10/13 – Managing Co-Director, NSF Industry/University Cooperative Research Center (I/UCRC) Center for Advanced Knowledge Enablement, Florida International University (FIU)
- 09/07 – Operations Team Coordinator, PIRE: A Global Living Laboratory for Cyberinfrastructure Enablement, FIU
- 01/06 – Adjunct Instructor, School of Computing and Information Sciences, FIU
- 10/03 – Assistant Director, Research Programs, School of Computing and Information Sciences, FIU
- 08/03 – Program Coordinator, CREST Center for Emerging Technologies for Advanced Information Processing and High-Confidence Systems / CREST Center for Innovative Information Systems Engineering, FIU
- 12/96 – Senior Research Associate and Assistant Director for Government Relations, High Performance Database Research Center, Florida International University
- 05/89 – 12/96 Research / Teaching Assistant, School of Computing and Information Sciences, FIU

Products (selected from over 40 refereed papers)

(i) Five most relevant

1. "PIRE: A global living laboratory for cyberinfrastructure application enablement." Proceedings of the 2009 Tapia Celebration of Diversity in Computing (Tapia '09). April 2009. With S. M. Sadjadi, S.-C. Chen, B. Furht, P. Martinez, S. Luis, J. Caraballo, Y. Deng
2. "Collaborative Learning in Building Sciences Enabled by Augmented Reality." American Journal of Civil Engineering and Architecture. (v. 2, n. 2, pp. 83-88). With Shahin Vassigh, Winifred E. Newman, Amir Behzadan, Yimin Zhu, and Shu-Ching Chen.
3. "Constraint Driven Model Using Correlation and Collaborative Filtering for Sustainable Building," The 13th IEEE International Conference on Information Integration and Reuse (IRI 2012), pp. 309-315. With Hsin-Yu Ha, Shu-Ching Chen, Yimin Zhu, Steven Luis, and Shahin Vassigh,
4. "Load Balancing in a Massively Parallel Semantic Database." Computer Systems Science and Engineering (Special issue on massively parallel processing). (v. 11, n. 4, July 1996). With N. Rishe and A. Shaposhnikov.
5. "Goddard Space Flight Center's Partnership with Florida International University." Eos Transactions, American Geophysical Union, 85(47), Fall Meeting Supplement, Abstract ED44A-08. With N. Rishe and M. Gutierrez.

(ii) Five other publications

1. "Web Service Security." Proceedings of the 2007 International Conference on Enterprise Information Systems and Web Technologies (EISWT-07). pp. 7-13. With M. Adjouadi, A. Barreto, D. Tenneti, M. Raoof, R. Krishna.K, Y. Cejas, N. Milton II, and N. Rishe.
2. "Semantic Database Engine Design." Proceedings of the 7th International Conference on Enterprise Information Systems (ICEIS 2005). pp. 433-436. With N. Rishe, D. Vasilevsky, E. Ugboma, A. Barreto, W. Joseph, M. Chekmasov, K. Morren, A. Selivonenko, and S. Sood.
3. "System Architecture for 3D TerraFly Online GIS." Proceedings of the IEEE Sixth International Symposium on Multimedia Software Engineering (MSE 2004), pp. 273-276. With N. Rishe, Y. Sun, M. Chekmasov, and A. Selivonenko.
4. "On-demand Geo-referenced TerraFly Data Miner." 2003 International Conference on Intelligent User Interfaces IUI 2003, pp. 277-279. With N. Rishe, M. Chekmasov, M. Chekmasova, and I. DeFelipe.
5. "Database Query Distribution over Intelligent Networks." Proceedings of the Workshop on Database Technologies at the Beginning of the New Millennium, SoftCOM 2001, Volume 1, pp. 109-116. With N. Rishe, O. Wolfson, and W. Sun.

Synergistic Activities

- Led the curriculum transformation of the School's 1-credit undergraduate Professional Ethics course into a Global Learning class that covers the legal, ethical, social impacts of computer technology on society, governance, quality of life, intellectual property, privacy, anonymity, professionalism, and social identity in the U.S. and globally.
- Coordinated the content, schedule, and logistics of a two-week long NSF-sponsored workshop, Multi University Research and Training in Protection of Critical Information Infrastructures, which served six student/faculty pairs, <http://www.cis.fiu.edu/sfs-workshop/>
- Local Arrangements Chair: MSE 2004; Session Chair: MSE 2004; Invited Session Co-Chair: SCI2001, SCI2002, SCI2003, SCI2004, CITSA2005
- Member of ACM and IEEE
- Honors and Awards: Best Administrative Staff, FIU SCIS, 2008; Florida Graduate Scholar 1989-1991; Competed in ACM International Scholastic Programming Comp., World Finals, 1991; Member Tau Beta Pi and Upsilon Pi Epsilon; Eagle Scout

Collaborators and Other Affiliations

- Collaborators and Co-Editors (16): Jason Black (Florida A&M University), Juan Caraballo (IBM), Oded Cohn (IBM), Teresa Dahlberg (Cooper Union), Yi Deng (UNC-Charlotte), Nicolas Diogo (Florida Memorial University), Yujian Fu (Alabama A&M University), Borko Furht (Florida Atlantic University), Dwayne Jerro (Southern University), Supratik Mukhopadhyay (Louisiana State University), Su-Seng Pang (Louisiana State University), Kaliappa Ravindran (City University of New York), Ouri Wolfson (University of Illinois, Chicago), Hsiao-Chun Wu (Louisiana State University), Li Yang (University of Tennessee, Chattanooga), Yelena Yesha (UMBC)
- Graduate Advisors and Post-Doctoral Sponsors
 - o Graduate Advisor: Naphtali Rishe, Florida International University
 - o Postdoctoral Advisors: None.
- Thesis Advisor and Postgraduate-Scholar Sponsor – None

Mohsen Taheri

Curriculum Vitae

PhD Student (2014 - Present)
School of Computing and Information Sciences
Florida International University
Cell: +1-786-352-3900
Email: mtahe006@fiu.edu

Education

(2014-Present) PhD Student in Computer Science

- Graduate Research Assistant/Teacher Assistant
- School of Computing and Information Sciences, Florida International University
- Advisor: Prof. S. Masoud Sadjadi

(2010-2014) M.Sc. in Computer Engineering / Software Engineering

(Accepted in National Organization for Iranian Genius University Students in MSc)

- Department of Computer Engineering, Najafabad Azad University, Isfahan, Iran.
- GPA: 88/100
- Thesis: Self-Localization of a Fully Autonomous Humanoid Robot for the Robocup Soccer Competition

(2004-2009) B.Sc. in Computer Engineering / Software Engineering

(Accepted in National Organization for Iranian Genius University Students in BSc)

- Department of Computer Engineering, Najafabad Azad University, Isfahan, Iran.
- GPA: 77.30/100.
- Thesis: Software Design and Development of an Autonomous Soccer Robot.

(2009-2010) Master of Business Administration (MBA) Certificate from Esfahan Technical & Vocational Training Organization (TVTO), GPA= 99/100.

(TVTO is the main institution in charge of short-term Technical and Vocational Trainings in Iran)

(2002) Pre University Certificate, GPA= 97.4/100.

(2001) High School Diploma in Experimental Sciences Certificate, GPA= 95.3/100.

(Accepted in National Organization for Development of Exceptional Talents (NODET) in High School and Junior High School)

Research Interests

Software Engineering, Software Architecture, Agile Software Development

Robotics, Robot Localization, Humanoid Robots

Cloud Computing

Academic Honors and Awards

Best Paper Award in 12th Int. Conference on Climbing and Walking Robot and the Support Technologies for Mobile Machines, with paper in title “Autonomous Navigation Systems for Mobile Robots base on Omnidirectional Vision System”, September .2009, Istanbul, Turkey.

Top Scholar Award (One of the best students and researcher amongst engineering students) Department of Computer Engineering, Isfahan Azad University, Isfahan, Iran.

2st Place in 10th Khwarizmi Youth Award in Iran-Tehran, November 2008.

(Iran's Largest Annual Science and Technology Festival)

3rd Place in 11th Khwarizmi Youth Award in Iran-Tehran, November 2009.

(Iran's Largest Annual Science and Technology Festival)

Being Vice chairman of the Middle size soccer Robot and Humanoid soccer robot Teams in the International Robocup Competitions 2006 in Germany, 2007 in USA, 2008 in China, 2009 in Austria, 2010 in Singapore, 2011 in Turkey and 2012 in Mexico.

Ranked 1st Place Adult Size Humanoid League in 8th International Iran-Open Robocup competitions in Iran-Tehran, April 2013. (Iran's Largest Annual Robot Competition)

Ranked 1st Place Teen Size Humanoid League Technical challenge in 8th International Iran-Open Robocup competitions in Iran-Tehran, April 2013.

Ranked 1st Place Teen Size Humanoid League in 7th International Iran-Open Robocup competitions in Iran-Tehran, April 2012.

Ranked 1st Place Teen Size Humanoid League Technical challenge in 7th International Iran-Open Robocup competitions in Iran-Tehran, April 2012.

Ranked 3th Place Kid Size Humanoid League in 7th International Iran-Open Robocup competitions in Iran-Tehran, April 2012.

Ranked 1st Place Kid Size Humanoid League Technical challenge in 7th International Iran-Open Robocup competitions in Iran-Tehran, April 2012.

Ranked 4th Place Kid Size Humanoid League Technical challenge in Robocup worldcup competitions in Turkey-Istanbul, July 2011.

Ranked 3th place Humanoid Soccer Robot League (Kid Size) in 5nd International Iran-Open Robocup competitions in Iran-Tehran, April 2010.

Ranked 1st place Humanoid Kid-Size Soccer Robot League in 1st National Khwarizmi Robotic Competitions in Iran-Tehran, November 2008.

Ranked 2nd place Middle Size Soccer Robot League in 1st National Khwarizmi Robotic Competitions in Iran-Qazvin, November 2008.

Ranked 1st Place Middle Size Soccer Robot League in 3rd International Iran-Open Robocup competitions in Iran-Qazvin, April 2008.

Ranked 2nd place Middle Size Soccer Robot League in 2nd International Iran-Open Robocup Competitions in Iran-Tehran, April 2007.

Ranked 2nd place in Middle size league in 2nd International China-Open Robocup Competitions in China 2007.

Accepted in National Organization for Development of Exceptional Talents (NODET) in High School and Junior High School

Accepted in National Organization for Iranian Genius University Students in BSc and MSc.

Entrepreneurship/Innovation/Invention Honors and Awards

Innovation Award 2009 for practical innovation in the field of robotics from Industrial Robot, Emerald Group Publication, 2009, England.

1st place in National festival of Innovation & Growth, 2008, Tehran, Iran.

1st place in National festival of Entrepreneurship Best Ideas 2010, Esfahan, Iran.

1st place in National festival of Entrepreneurship & Business, 2011, Urmia, Iran.

The Best Business Planner of National Sheikh Bahai Technopreneurship Festival, 2013, Iran.
(Iran's Largest Annual Technopreneurship Festival)

1st place in Provincial Festival of Innovator and Researcher Students, 2008, Isfahan, Iran.

1st place in Provincial Festival of Selected Young People, 2008, Isfahan, Iran.

1st place in Provincial Festival of Innovation & Growth, Isfahan, Iran, November 2008.

3rd place in Provincial Festival of Entrepreneur Students (Mobile Robot Production Line), Isfahan, Iran, 2008.

1st place in Provincial Festival of Entrepreneur Students (Vertical Accelerator), Isfahan, Iran, 2010.

3rd place in Provincial Festival of Entrepreneur Students (Software Simulation for Conductive Cable from Iodine-doped Nanotubes), Isfahan, Iran, 2011.

2nd place in Provincial Festival of Entrepreneur Students (Crowdfunding Portal), Isfahan, Iran, 2012.

New Publication (2015)

1. M.Taheri, SM.Sadjadi, "A Feature-Based Tool-Selection Classification for Agile Software Development" International Conference on Software Engineering and Knowledge Engineering (SEKE) 6-8 July 2015, Pittsburgh, USA.
2. M.Taheri, SM.Sadjadi, "A Comparative Classification for Cloud-Based Agile Software Development Tools" IEEE International Conference on Cloud and Autonomic Computing (ICCAAC) 21-25 September 2015, Cambridge, MA, USA.(Under review)

Publication (Journals)

1. S.H.Mohades Kasaei, S.M.Mohades Kasaei, S.A.Monadjemi, M.Taheri, "MODELING AND IMPLEMENTATION A FULLY AUTONOMOUS SOCCER ROBOT BASED ON OMNI-DIRECTIONAL VISION SYSTEM". Journal of Industrial Robot, published by Emerald Group Publishing Limited, UK, ISSN: 0143-991X (Indexed in ISI).
2. M.Taheri, M.Naderi, M.Sharafi "Control and Analysis of an Omnidirectional Autonomous Robot Based on Software Approach and Multimedia Database". Journal of CONTROL ENGINEERING AND APPLIED INFORMATICS, ISSN: 1454-8658 (Indexed in ISI).
3. M.Taheri, S.H.Mohades Kasaei, S.M.Mohades Kasaei, H.Vahiddastjerdi, and M.Rahimi, Isfahan Azad university middle size soccer robot, "ADRO Team Description Paper ", T.D.P RoboCup Symposium & Competition, Robot Soccer World Cup, LNCS, Springer, 2006 Bremen, Germany, 2007 Atlanta, USA, 2008 Sozhou, China, 2009 Graze, Austria.
4. S.H.Mohades Kasaei, S.A.Monadjemi, M.Taheri "Design and Implementation an Autonomous Humanoid Robot Based on Fuzzy Rule-Based Motion Controller". BRAIN. Broad Research in Artificial Intelligence and Neuroscience Volume 1, Issue 3, July 2010, pp: 57-64, Romania, ISSN 2067-3957
5. S.H.Mohades Kasaei, S.A.Monadjemi, M.Taheri "Modeling and Implementation of Omnidirectional Soccer Robot with Wide Vision Scope Applied in Robocup-MSL". BRAIN. Broad Research in Artificial Intelligence and Neuroscience Volume 1, Issue 3, July 2010, pp: 65-74, Romania, ISSN 2067-3957.
6. S.H.Mohades Kasaei, S.M.Mohades Kasaei, M.Taheri "Design of an Action Selection Mechanism for Cooperative Soccer Robots Based on Fuzzy Decision Making Algorithm". BRAIN. Broad Research in Artificial Intelligence and Neuroscience Volume 1, Issue 3, July 2010, pp: 5-18, Romania, ISSN 2067-3957.
7. S.H.Mohades Kasaei, M.Taheri, S.M.Mohades Kasaei, H.Vahiddastjerdi, and M.Rahimi, Isfahan Azad university humanoid kid size soccer robot, "PERSIA Team Description Paper ", T.D.P , RoboCup Symposium & Competition, Robot Soccer World Cup, LNCS, Springer, Graze , Austria, 2009, Singapore, 2010.
8. S.H.Mohades Kasaei, M.Taheri, M.Rahimi, H.Vahiddastgerdi, M.Saeidinezhad, "Design and Implementation a Fully Autonomous Soccer Player Robot" Proceedings of World Academy of Science, Engineering and Technology, Volume 39, ISSN: 2070-3740, Hong Kong, China, March 23-25, 2009.

Teaching Experiences

1. 2014/2015 FIU- Computer Architecture and Microprocessor Design.
2. 2014/2015 FIU- Introduction to Microcomputers.
3. 2014/2015 FIU- Computer Data Analysis.

Computer Skills

1. C++, OpenCV, QT, Linux, ROS, C#.
2. Analytical tools: MATLAB and Mathematica.
3. Primavera, MSP, Agile project management tools.
4. Oracle, SQL Server.