

University Grants Commission of Bangladesh
Higher Education Quality Enhancement Project
Academic Innovation Fund
Six Monthly Sub-project Monitoring Format (Updated)

Reporting period: July to December, 2015

01. Name and Details of the Sub-Project

Name of the sub-project	Capacity Building for Postgraduate Research in Remote Health Monitoring in Bangladesh
Sub-Project Number (CP Number):	CP-3137
Name of the Sub-project Manager with position in the entity	Dr. A.K.M. Ashikur Rahman Professor Dept. of Computer Science & Engineering, BUET
Implementing Unit [Department/Faculty/Center/Institute/University]	Deptment of Computer Science & Engineering
Name of University	Bangladesh University of Engineering and Technology. (BUET)
Collaboration with other institutions/ agencies: N/A	N/A
Inception Date: 1/07/2014	Completion Date: Original: 30/6/2017 Revised (if): 30/9/2017

02. Name and Details of Internal/provisional staff/consultants included/hired in the Subproject Management Unit

Nº of Internal Staff*	Nº of Students (if any)	Nº of Consultants ***	Full Time (how many out of total staff)	Part time (how many out of total staff)	Nº of Provisional Staff**
5	4	0	0	5	4
Name of Internal Staff	Designation (In the Entity)	Hiring Date (In the sub-project)	Type of Contract (Lump sum=1; Daily Basis= 2; Monthly=3 ; Others	Duration (Months)	Expected Total Cost (Lakh taka)
Dr. A.K.M. Ashikur Rahman	SPM	1 /07/2014	Other (Basic Salary in Quarterly Basis)	36	4.32
Dr. Md. Yusuf Sarwar Uddin	DSPM	1 /07/2014	Other (Basic Salary in Half Yearly Basis)	36	2.04
Dr. S. M. Farhad	ASPM	1 /07/2014	Other (Basic Salary in Yearly Basis)	36	1.02
Fatema Tuz Zohora	ASPM	1 /07/2014	Other (Basic Salary in Yearly Basis)	36	1.02
Rifat Shahriyar	ASPM	22 /10/2014	Other (Basic Salary in Yearly Basis)	36	1.02
Name of Provisional Staff	Designation	Hiring Date	Type of Contract	Duration (Months)	Expected Cost (Lakh Taka)
Asia Akter	Office Secretary/Manager****	03/08/2014 (left 30/04/15)	3	9	1.91
Rezaur Rahaman	Accounts Officer Cum Office Secretary/Manager	03/08/2014 01/05/2015	3	36	6.51
Md. Wazed Ali	Data Entry/Computer Operator	03/08/2014	3	36	4.74
Md. Reza Shakhawat	Supporting Stuff	01/11/2015	3	20	1.065

Hossain					
Md. Rezaul Karim Alam	MLSS	03/08/2014	3	36	3.12

Note: *Academics engaged in sub-project management and included in SPMT
 ** Support staff recruited temporarily to provide secretarial service to sub-project management e.g., accountant, office secretary, data-entry operator, MLSS etc.
 *** Experts appointed following relevant provisions of PPR 2008 or WB Guidelines
 ****Office Secretary/Manager left in April 2015

03. Summary of the Activities of the sub-project [According to the proposal]

1. Conducting post graduate research leading to M.Sc./ Ph.D. degree:

To conduct post-graduate research on application of information and communication technology in health sector, and thus innovating novel techniques for health information systems, such as health and health, that are particularly suitable in the context of Bangladesh.

2. Enhancing post graduate research capability:

To strength research capabilities in the form of M.Sc./Ph.D. enrollments in the areas of health informatics, embedded systems and mobile computing through research, prototype building, academic training and collaboration home and abroad.

3. Arranging regular seminars, symposiums, and workshops:

Four workshops, namely workshops on vital signals, mobile application for healthcare, health informatics, and security and privacy of health data, are proposed throughout the span of the project. A couple of seminars/talks would also be arranged. We have already arranged a workshop on iOS training specially designed for faculty members of CSE, BUET. And we also arranged Brain storming Workshop on eHealth and another Workshop 'Remote Health Monitoring Workshop' (rHealth 2016)

4. Enhancing postgraduate research laboratory:

We intend to enhance the wireless networking laboratory with the state-of-the-art equipment needed for remote health monitoring of patients.

5. Enhancing research collaboration in the department:

Arranging research visits for Ph.D. students and faculty members at the foreign university laboratories, arranging academic visits of the permanent faculty members to foreign universities. Inviting visiting professors for three months research visits, and academic training of the faculty members.

04. Description of the Progress so far and in the past six-months according to Work/Activity plan

Progress during the past six months:

1. Procurement:

We have received goods in October'15 for package G6: "Supply and installation of Laptop Printers and Photocopier" that has been processed centrally by the HEQEP office. We also have received goods for package G3 (OTM): Supply and installation of IT equipments (Smart phones, video camera, and networking accessories). Tender package G4 (Supply and installation of Laboratory equipments pkg-1) is approved by honorable V.C. Overall all procurements are in good shape.

2. Workshop : We have successfully arranged the following workshop/Seminar

- Thesis project show.

Overall progress so far:

3. The project office establishment and recruitment of all office staffs have been successfully completed.
4. To provide financial support and research training of M.Sc. and Ph.D. students at the department of CSE, BUET we have already selected four M.Sc. students under this project and now they are conducting research in remote health monitoring in Bangladesh. We are currently in search of Ph.D. students.
5. Three faculty members, including SPM and two ASPM have attended in PPR and e-GP training that was arranged by HEQEP.
6. Procurement of goods:
 - We have already completed package G7 (RFQ): Supply and installation of Laptop and Package G1 (RFQ): Supply and Installation of Office equipments.
 - We have received goods in October'15 for package G6: "Supply and installation of Laptop Printers and Photocopier" that has been processed centrally by the HEQEP office. We also have received goods for package G3 (OTM): Supply and installation of IT equipments (Smart phones, video camera, and networking accessories).
 - Tender package G4 (OTM) (Supply and installation of Laboratory equipments pkg-1) is approved by honorable V.C., NOA is about to be issued.
7. Research stays of SPMT member enhances the research skills of the faculty members of the CSE department and encourages their research in the proposed field of study. As our proposed project is highly research focused, this definitely strengthens research activity in the department. Our DSPM Dr. Md. Yusuf Sarwar Uddin has completed collaboration research stay at the University of California, Irvine. He is working on the integration of heterogeneous devices (in situ and mobile sensors, mobile platforms) and networks to enable reliable and efficient execution of distributed applications.

8. Our SPMT member Dr. S.M. Farhad has completed **iOS** training form DDLS Australia and he also replicated the training for faculty members in CSE, BUET.
9. Arranged regular seminars, symposiums, and workshops: The followings were organized
 - Seminar on Collaborative Research
 - Workshop on iOS training
 - Brainstorming Workshop on eHealth
 - Thesis project show.

05. Activities planned in coming six-month period according to Work/Activity plan

1. Acquisition of Equipments.

To improve the wireless networking laboratory at the department of CSE, BUET, with state-of-the-art health monitoring wireless equipment to conduct innovative postgraduate research and create intellectual properties as needed and it includes

- a. Preparation of bid documents for package G5 (Supply & installation of laboratory equipments package 2).
 - i. Invitation to tenders
 - ii. Tender evaluation
 - iii. Vendor selection
 - iv. Purchasing new equipment
 - v. Installation, testing and commissioning of the equipment
- b. Preparation of RFQ package G2 Supply of Furniture & Fixture for Office Room

2. Participation in customized training courses on foreign countries by the academic faculties.

Enhancing the research capacity of the faculty members through training in the courses needed for building ICT interfaces, instrumentation and infrastructure for remote health monitoring. In accordance with that we are planning to conduct following two trainings abroad:

- Training on Embedded systems.
- Training on network security.

3. Visiting Professor Fellowship program.

To award fellowship to visiting professor in order to enhance research collaboration in the proposed field of research study we plan to select a Visiting Professor.

4. Involvement of Medical Consultant.

Our project prototype can be used to connect reputed and experienced doctors from

national and international level to investigate and research special diseases. Famous doctors in urban areas can play a great role to alleviate the health care system by contributing in the treatment of neglected people across the country.

5. Arranging regular seminars, symposiums, and workshops:

We expect a wide dissemination of research findings to the communities and an exchange of views and ideas with the people coming from both academia and industry. A couple of seminars/talks & four workshops, namely workshops on vital signals, mobile application for healthcare, health informatics, and security and privacy of health data are proposed throughout the span of the project. We hope among them one workshop and three seminar/workshops will be held within the next six months as follows:

- Brainstorming Workshop on eHealth
- Workshop on Remote Health Monitoring
- Thesis project show
which includes:
 - a. Thesis project show Forming organizing committees
 - b. Call for paper
 - c. Paper submissions and reviewing
 - d. Selecting papers for presentation
 - e. Registration
 - f. Organizing the main event

06. Description of implementation issues/impediments/Challenges [Issues that may hamper implementation] and proposed remedial actions

1. **e-GP:** In order to successfully conduct the proposed research, a number of equipments/machineries are required. However, the overall procurement process of such equipments was completely stalled because there was a central decision that all subprojects from BUET have to complete all procurement processes through the recently government-introduced e-GP system. Hence no procurements could be made until the required training of the online e-GP system was completed at the first week of December.

Remediation: Extending project completion time.

2. **Staff training By HEQEP:** Although it was promised to provide necessary training by the HEQEP office to the local staffs hired under this project, no training has been conducted so far.

Remediation: HEQEP Office should take action as soon as possible to start Staff training.

3. Eligible Ph.D. student for research is quite difficult to find as they go abroad to get their Ph.D.

Remediation: Need more time

Update on Milestone status

Milestone	Expectation (%) till date (31.12.2015)	Progress till (%) date (31.12.2015)	Revised Expected Date	Comment/Justification
1. Enhancing post graduate research capability	40%	50%	30/04/2016	Application of The Ph.D. student denied by the Equivalence Committee
2. Enhancing postgraduate research laboratory	70%	80%	28/02/2016	Delayed due to e-GP
3. Organizing fellowship to a visiting professor	0%	10%	30/04/2016	Procurement has been delayed
4. Enhancing research capacity of faculty members	25%	50%	30/06/2016	-
5. Enhancing the research collaboration of faculty members	50%	50%	Achieved	-
6. Arranging workshops	25%	50%	Achieved	Shall Achieve 50% in next 3 months

Note: Copy Milestones from respective SPM's Table 1 of Final CP.

07. Update on Performance Indicators to Evaluate Sub-project Impact

Indicators	Calculation method	verification methods	Calculation of Base Value	Baseline Value in Year 2015	Desired Standard (%) on Terminal Year 2017	Present Value (%) as on (31.12.2015)
1. Increase in post-graduate research in the proposed field	Number of newly approved new researches undertaken with this sub-project's funding.	Thesis registration and/or completion document of post graduate program	N/A	Nil	6	4

2. Improvement of students' research capacity in the proposed field	Number of publications by students in national and international refereed journals/conferences/workshop;	Published refereed journals/conferences/workshop	N/A	Nil	6	3
3. Improvement of faculty staffs' research capacity in the proposed field	Number of publications by faculty staffs in national and international refereed journals/conferences/workshop;	Published refereed journals/conferences/workshop	3	3	6	3
4. Improvement of research collaboration in the proposed field	Number of collaborative research stays in foreign universities;	Research visit and collaboration document; travel document;	N/A	Nil	5	1
5.* Enhancement of IT equipment in Wireless Laboratory	Number of new machines/ Total number of machines	Official non-objection records	Total number of machines = number of new machines + number of existing machines	Nil	0.55	0.14
6. Enhancement of laboratory equipment in Wireless Laboratory	Number of new equipment/ Total number of equipment	Official non-objection records	Total number of equipment = number of new equipment + number of existing	Nil	0.600	0

			equipment			
7. Improvement in disseminating research findings in the proposed area	Number of workshops arranged	Official records	events	N/A	Nil	4
						3

Note: Copy 1st 6 Columns from respective SPM's Table 2 of Final CP.

*5 Existing machine =Computer -31, Mobile phone 14

8. Fund utilization

Description	Amount
Total Budget of the Sub-Project (Tk. In million)	349.97
Total Revised Budget of the Sub-Project (Tk. In million)	N/A
Fund Received up to December 31, 2015 (Tk. In million).	120.00
Fund Utilized (Tk. In million)	33.622
Percentage (%)of received fund against total budget of the sub-project	34.28%
Percentage (%) of utilized fund against total budget of the sub-project	9.61%

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Acquisition of Equipment/ Materials :

Sl. No.	Equipment/ Materials	Quantity/Unit
1)	Multimedia projector	-
2)	Laptop	10
3)	Desktop	-
4)	Printer	4
5)	Scanner	1
6)	Photocopier	1
7)	Fax/telephone	-
8)	White board	-
9)	Electronic/Smart/Digital Board	-
10)	Multimedia Screen	-
11)	Books	-
12)	Journals	-
13)	Number of Air Coolers	-
14)	Number of Furniture & fixture	-
15)	Other items: (Oscilloscope-1, BarCode Scanner-1, Label Printer-1)	3

10. Acquisition of Scientific Equipment/ Chemicals/Reagent etc.:

Sl. No.	Name of Equipment	Quantity
1) 1	SENSOR OPTO TRANS	10
2) 2	IC OPAMP GP	25

11. Capacity Building and Experience Sharing Programs (Workshop/ Seminar /Training/Conferences) Organized by the sub-project for Faculties, Students or External stakeholders:

Event	Title	Target Groups	Number of Participants	National/International
Training:	-	-	-	-
Workshop:	iOS Training Workshop CSE BUET Dhaka	Faculty member	19	National
Workshop:	Brainstorming Workshop on eHealth	Health Service related personnel and Faculty members	87	National
Workshop:	Thesis Project Sow	Faculty member and Student	114	National
Workshop:	Remote Health Monitoring Workshop (rHealth 2016)	Health Service related personnel	29	National
Conference:	-	-	-	-
Seminar:	Middleware services for Media crowdsourcing in Mhealth applications	Faculty member	29	National
Collaborative Research	The direction on mobile health care and safety services using ubiquitous computing technologies.	Faculty member (DSPM)	1	International (Distributed system Middleware lab at the University of California, Irvine)
Study tour	-	-	-	-
Others (if any)	-	-	-	-

**** target groups may be faculty member, students, university staff, field workers, practitioners, etc.:**

12. Activities for undertaking Curriculum development (if any):

Event	Title	Number of Participants	National/International
Workshop	Thesis Project Sow	114	National
Seminar	-	-	-
Training	iOS Training	Dr.S.M.Farhad	International DDLs Australia
Pair Review	-	-	-
Study tour	-	-	-
Others (if any)	-	-	-

13. External Training/ Workshop Attended by SPM Team

Name of Training/ Workshop	Participants Name	In-country/ Overseas
PPR	1. Dr. A.K.M. Ashikur Rahman (SPM) 2. Dr. Md. Yusuf Sarwar Uddin (DSPM)	In-country
e-GP	1. Dr. A.K.M. Ashikur Rahman (SPM) 2. Dr. S. M. Farhad (ASPM)	In-country

14. Post graduate enrolment in the Department under the sub-project

Sl. No.	Name of Degrees	Current Registered Number
1)	MS enrolment	4
2)	M.Phil. enrolment	-
3)	Ph.D. enrolment	-
4)	Others (if any)	-

15. Result (Output) Achieved of the Sub-project : N/A

	Categories of Result (Output)	Number(& Name)
1)	Refurbished/ Renovated class room	-
2)	Virtual Class room	-
3)	Language lab/Club	-
4)	Refurbished/ Renovated Seminar Room	-

5)	Refurbished/ Renovated Conference Hall	-
6)	Refurbished/ Renovated Laboratory	-
7)	Refurbished/ Renovated Field Laboratory	-
8)	Established/ Renovated Computer Lab	-
9)	Curricula/Syllabus Updated	-
10)	Office automation	-
11)	Digital Library	-
12)	Campus Network/ ICT Network	-
13)	Academic Assessment (Self-Assessment) of department/institute/faculty	-
14)	Digital Archive of Research Program	-
15)	Other Achievements (If any)	-

16. Research outcome (Journal, Publication, Articles etc.) related to the sub-project since its inception. Please also provide the full list of journals published in the past six months:

Name of Research outcome (Journal, Publication, Articles etc.)	Number
Journal publication (domestic journal)	-
Journal publication (international journal)	-
Conference proceedings	-
Master's thesis accepted	-
PhD dissertations accepted	-

Details of journal publications: N/A

Full reference (author, title, journal, date of publication)	Academic field
-	-

17. Name and URL of Developed Website: N/A

Name: N/A

URL: http:// N/A

18. Other Noteworthy Achievements : N/A

19. Number of Direct Beneficiaries of the sub-project

	Number	Remarks
Students (Undergraduate)	3	-

Students & Researchers (Post-graduate, Post-doctoral)	4	-
Faculty members	5	-
Other University staff	-	-
Other stakeholders : ()	-	-

* Please count only the benefits that have already been realized (not the expected beneficiaries)

**Please do not double-count the beneficiaries. For example, if 1 person attended 2 workshops, beneficiary is still 1 person.

20. Comments

21. Declaration

Signature:

Name of Sub Project Manager : Prof. Dr. A.K.M. Ashikur Rahaman

Name of the Sub-Project : Capacity Building for Postgraduate Research in Remote Health Monitoring in Bangladesh

Name of Entity/University : Bangladesh University of Engineering and Technology (BUET)

Date : 16/01/2016