

Chondrobot's journey

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Asif Iqbal caught up with Shiblee Imtiaz Hasan, one of the young men who went to NASA recently.

For most of us, working with NASA is a fantasy of sorts. For Shiblee Imtiaz Hasan, the dream became a reality. Hasan is a rare kind of young man, adventurous and curious, as a boy he was part of the Boy Scouts, which gave him the opportunity to travel and meet many of his contemporaries from across the world, the kind of contacts that led to a visit to the UN Space Generation programme and NASA. Hasan was involved with two different NASA projects in 2007 and 2009, so when the invitation came from NASA once again in 2010 to participate in Lunabotics 2011, it wasn't a surprise. Lunabotics is a university-level robotics competition held by NASA to promote science among the youth. It was open to universities from around the world for the first time last year. The objective was to build a robot that would be sent to the Moon to excavate and collect samples. The final design will travel to the Moon in 2020, similar to the animated character, WALL.E. While Hasan may have been unperturbed by the invitation, his professors at BRAC University's Computer Science and Engineering (CSE) department were taken aback by the invite as they had not participated in anything such as this before. They overcame their scepticism to take on the possibility of building robotics in Bangladesh. They couldn't let such a great opportunity pass them by. Once Hasan's project proposal and the 3D animated model were accepted by NASA, they had a long way to go to actually build the robot. Hasan says, "Our initial aim was to complete the task of making the robot. We call it Chondrobot. We were lucky to have good people in our team. As part of one of my courses, I had already created a robotic cockroach that hides in the dark when it detects people around it." The experience and technical knowledge was there but it was a challenge locating the hardware and specialised mechanics. The model had to be re-designed because they could not find all the components needed and had to consider using alternatives for the parts, even taking into consideration rickshaw or motorcycle parts. The project also required major financial support; the team had to complete their regular courses as well, which was not the same as the students in the US, who were lucky enough to have the work as part of their university course that was funded by the institutions. Fortunately BRAC University's VC Professor Ainun Nishat was supportive of the team and so they had his assurance that the university would help. With the university behind them, the Chondrobot team worked full throttle to complete the project, and by April this year, they had come through the three evaluations, which included the Chondrobot's

construction being documented thoroughly so others can learn of it through an outreach programme. The BRAC University team was among the final teams, and the 36 finalists made their way to LunArena, the simulated Moonscape in May 2011, to try out their robots. “Everyone was happy to see a Bangladeshi team and the Chondrobot, which is made out of recycled materials and cost only \$500. It could excavate but the second-hand parts meant there were a few technical and performance related problems, compared to other teams. It got stuck on its way back,” states Hasan, a tad disappointed, but he was happy to have had the chance to meet the NASA scientists, astronauts and others. “At least our robot was operational, because there 11 teams that could not participate because their robots did not work at all. This was a big learning curve for us and an achievement for us. We have the ability to achieve more if we have the support.”

The BRAC University is looking forward to the next competition with plans to support teams to take part in the event. The Chondrobot may have failed to make its way through the competition but the robot has other potentials so while Hasan prepares to leave for the US for further education, he will continue to collaborate with fellow students back at BRAC University. He has some worthy advice, “Believe in yourself, be practical and go for any feasible opportunity you get.”