In response to the call for ideas form NASA app challenge, some youngsters from Daffodil International University, Bangladesh had come up with a project plan. They are under the banner of the team “Drone for Green”. The team includes team leader Nahid Ferdous from dept of EEE and his mate Md Jawadul Gani from the Dept of ESDM, Elias Hossain from dept of SWE, Samantha Haque from dept of SWE, Md.Takasur Rahman Chowdhury Nayan from dept of SWE, Rashedul Islam Roni from dept of CSE and finally the chief animator, Hasan Talukder from dept of BBA of the respective university. Their project is entitled, “Unmanned Aerial Vehicle based assessment of canopy cover and deforestation dynamics”. The main focus of the proposed project is to add value to the global efforts to effectively fight deforestation. To achieve this goal, the team is planning to incorporate UAV induced imagery of the forest cover. Along with the regular satellite imagery, these UAV generated images is expected to involve centimeter level precision to the image analysis for resource appraisal. The field analysis of the vegetation cover is getting difficult day by day. Mainly because the deforestation activities are happening over a much larger area now. And the syndicate involved in these activities are quite organized. Besides that, field analysis requires a lot of manpower and thus can be easily biased. Its time consuming and of course, dangerous too. Following all these drawbacks, forest dept of many countries are leaning toward using satellite images for conservation purpose. But there are problems too, (I) Satellite images can’t provide updated situation as per demand. (II) The area covered by one pixel of satellite image is quite bigger than the size of one single tree, thus zooming in would only show blurs of green, nothing quite effective. Isn’t it? (III) The high resolution images of LANDSAT or other satellites are very expensive, many of the deforestation prone countries can’t afford them. Therefore, using UAV in this regard seems to be a strong option. We can do a much better job using drones and photogrammetry to generate 3D data over the forest and then convert those data to reliable and precise estimates of canopy cover. If we fly the same area at two different times we can create a high-resolution map of canopy cover change and thus quantify deforestation (or reforestation where the forest is growing and expanding – if there are any such areas). The high-resolution part is very important because it allows us to identify individual trees. If someone removes a tree, or a big part of a tree, between the two drone flights, we will be able to tell exactly where that happen. We plan to use large, 1 hectare (100 x 100 m) plots and image them flying with the drone at low altitude. The plot area is too big to measure with field observations by humans, but it is ideal for drone coverage. Each of the plots will contain at least 9 adjacent 30 x 30 m Landsat 8 pixels and 16 20 x 20 m Sentinel 2 pixels. We will thus be able to link variability in satellite pixel values with variability in the ground. Without the drone data we cannot do that. Using the data in clause 4 above, we will be able to develop improved models that assess canopy cover over the entire mangrove forest. Once the model is established, it can be used every time a new cloud-free satellite image becomes available. Subtracting the cover estimate obtained at time N from the cover estimate obtained at time N-1 will immediately tell us canopy cover changes, if any. We will be able to identify both the location and timing for deforestation-related activities. The Forest Department or the government can then allocate resources to those locations. Access to, processing and analysis of satellite information has recently become much easier thanks to free services provided globally by Google Earth Engine and others. We plan to incorporate those utilities in our workflow. It is estimated that, technologies such as UAV`es that are currently uncommon to everyone now, will become a part of daily life by then. A smartly designed website, connected with a strong server can easily facilitate and coordinate the efforts from the users all over the planet. In future, more people could be involved in the process. They can upload their raw footage which was captured at two different times into the server. It will analyze the data automatically. And users will receive ready information on deforestation rates. One portion of the information will be added to the google map server. This will allow us to get access into an updated estimation of deforestation that is happening in the area. The outcome would be a very frequently updated inventory on the vegetation cover around them. This would also allow them to pin point the deforestation dynamics as well. The team is hoping to bring a revolution in terms of conservation activities.