

# SPACE -Annual Report

2017-18

SPACE which played a significant role in the past decade in the promotion and adoption of free software among various educational and governmental sectors and as a supporting organization for various free software communities and enthusiasts, is currently in a stage of entering in to the second phase of the movement that started in 2003. While we are able to create and demonstrate some real world working examples on how free software can be an alternative in computing and how it can play a leading role in the process of human evolution during these period of functioning, the path to a wider and common adoption or migration to free software is still in its begining stage. With the experiences gained so far , human and technical resources we have and the acquired trust of credibility as an organization , we are shifting our gears to a wider perspective.

SPACE entered its 14<sup>th</sup> year with a lot of objectives & expectations at the same time.This year we focused mainly on enhancing the use of free software especially in the field of education and among disabled along with promoting the use and adoption of free software in various organizational and community developmental activities. Our activities across campuses and among students were also going forward strongly through various workshops and hackathons.

We are happy at this stage of report preparation, that we made considerable acheivements and able to pass critical milestones with the objectives planned and quite excited to continue its momentum in the coming years. This report gives a brief overview of the activities and events we took up during the financial year which can be broadly classified into the following categories with the objectives outlined above.

1. free software for education
2. free software for disabled
3. Malayalam computing
4. Capacity Building Programs
5. Gender and free software

## **Free Software For Education**

While we are successfully able to introduce free software in our education system and demonstrate its impacts in specific areas especially in the field of special education with the Insight project, we felt that our role doesn't end there. Continuously exploring the new technologies emerging in the education sector, selecting and using those technologies for our own needs and also identifying new potential areas and promoting its wider adaption also become our new role in the changing scenario. H5P is the technology we focused mainly in this regard. We made a significant progress in this work both by contributing new modules to the project and also by introducing its use in the education sector through various workshops and training programs. This section highlights the important activities and events in this regard.

### **H5P Image Sequencing – Official Release**

H5P Image Sequencing, which is a free HTML5 based image sequencing content type which was released in August. This allows authors to add a sequence of their own images (and optional image description) to the game in a particular order. The order of the images will be randomized and players will have to reorder them based on the task description. It was a contribution by Mr. Jithin to an international project.

### **H5P workshop at Palakkad**

November included a workshop in Palakkad for B.Tech students, which was organized by an organization named SSWEET in Sreekrishnapuram Engineering College. The workshop was on H5P (HTML 5 Package) which makes it easy to create, share and reuse HTML5 content and applications. H5P empowers everyone to create rich and interactive web experiences more efficiently with just a web browser and a web site with an H5P plugin as requirements. H5P content is responsive and mobile friendly, which means that users will experience the same rich, interactive content on computers, smart phones and tablets alike. The workshop was held for two days by Mr. Jithin and resource persons from ICFOSS and was very helpful and informative for the B.Tech students.

## **Swatantra Conference & Talk on H5P**

The Triennial free software conference Swatantra was held on 20th and 21st December, 2017 respectively by the International Centre for Free and Open Source Software(ICFOSS). The conference was held across two days beginning at 9:00 AM in the Mascot Hotel, Trivandrum. The conference was inaugurated by the honorable Chief Minister of Kerala Sri. Pinarayi Vijayan and saw 36 speakers coming together to talk about various aspects of free software. Mr. Jithin from SPACE contributed to the conference by talking about how H5P can be used as a tool for Open Education Resource. He talked about the various aspects of H5P which is an abbreviation for HTML 5 Package and how it can be utilized as an open education resource as it is freely accessible and thus prove to be extremely useful in teaching and learning. The talk proved to be useful and enlightening as the audience were able to learn more about H5P.

## **ICT workshop at Thycaud Teachers Training College**

A workshop was held on Information and Communication Technologies in December at Thycaud Teachers Training College for three days. Various techniques of moodle, H5P, Gimp, Inkscape, Audacity and Stopmotion were taught to those present by a team comprising of Ms.Sairath, Mr. Suman, Mr. Jithin and Mr. Aravind. The workshop gave the teachers a firsthand experience on ICT and its uses under the constant guidance and help of the team. As ICT has become a vital part of everyday life, the workshop proved to be very useful for the teachers.

## **Free Software For Disabled**

Special Education and focus on various assistive technologies has been one of our main interest areas that we are able to make a significant progress in the previous years. Free software project for the blind and Insight project for children with autism were some of our noteworthy projects in this regard . Insight project is still leaping forward in to its 10 years of successful running with the support and financial aid from Social Justice Department of Kerala. The increased use and availability of mobile and tablets and their vast potential in the case of education has made us to initiate some free software activities in this regard. Customizing the applications that we developed previously on desktop platform compatible with these new platforms and developing new interactive android applications focusing on special education are the major works done. SPIN, an Indi

vidualized Education Plan management system developed specifically for INSIGHT, leveraging the most modern web technologies ,which has under pilot running shifted into fully functional mode from April onwards.

## **SPIN in full functional mode**

SPIN-IEP v1.0 is a web application designed by SPACE for the user and student management of Insight Project. Insight is a project of the Kerala Government, which aims to use Information and Communication Technology (ICT) for the development of the Differently abled in Kerala. Spin provides an effective way of implementing and managing individualized education plan. Users of the application with different roles and permissions can interact with the system in different ways to get the required information and act accordingly. SPIN which is short for SPACE INSIGHT was fully deployed in March and has proven to be very useful as it allows the teachers to manage and keep track of student data, Individualized Education Program (IEP), attendance, feedback and so on.

## **Assitive Technology Workshop At ICFOSS**

Members of SPACE participated in an Assistive Technology workshop conducted by ICFOSS as a part of Swatantra conference. They got hands-on working experience and insights on various low cost technical solutions that can be customized according to the specific nature of disability . Eventhough we are interested in doing something useful in the field of assistive technology in the past , lack of proper knowledge & exposure to the new field are the main challenges that drag us behind. But with the experiences and confidence gained from the workshop , together with the assured support from the team that conducted the workshop , we are quite sure that works on assistive technology will be one of our prime focus in the coming years.

## **Malayalam Computing**

We are able to continue our research activities in malayalam computing in parallel along with the activities in the education sector. Lekha Project, a malayalam OCR developed by SPACE with the funding from ICFOSS, in the previous year is currently in completing its second phase. Improvements in prediction accuracy leveraging the hidden linguistic patterns if any, exploring various layout analysis algorithms & incorporating the suitable implementation into the existing framework and creating a simple user interface to the OCR were the objectives set in the second phase. We have made considerable progress in all these areas and we are able to present a simple OCR application for normal users within this project period. Learning materials were also prepared for students interested in working with machine learning. Internship and student mentoring programs were also conducted along side with this project.

## **Capacity Building Programs**

Sharing the knowledge that we have and acquired , for the society is one of the primary philosophies of free software and one of our primary area of interest over these years. This year too, we had done a series of workshops , hackathons and training sesions on various free software technologies to a wide variety of user and student communities.

## **Faculty Development Programme at ICFOSS**

A faculty development programme was conducted for two days in International Centre for Free and Open Source Software (ICFOSS) in January which kick-started the years activities. The programme was framed around the FOSS Lab syllabus and was attended by around 30 B.Tech teachers belonging to Kerala University. The programme was held with the objective of capacity building of engineering faculty. The sessions were taken by Mr. Jithin, Mr. Sachin, Mr. Suman and Ms. Nishi. The programme proved to be a big help for the teachers as it enabled them to have more in depth knowledge of the FOSS Lab syllabus.

## **Laravel Introductory Sessions at Keltron Knowledge Centre**

A training programme was conducted with focus on 'Introduction to Laravel', which is a free, open-source PHP web framework. The programme was headed by Mr. Jithin and was held across a span of three days in January. The venue was KELTRON Knowledge Centre whose aim is to impart technical education at an affordable rate to the students in Kerala. The audience consisted of 20 people who were staff and interns of KELTRON. The sessions facilitated the staff and interns to get introduced to Laravel.

## **Laravel Session in Central Polytechnic College, Vattiyoorkkaavu**

Another introductory session on Laravel was held in Central Polytechnic College in Vattiyoorkkaavu by Mr. Jithin in January. It was a one day programme for the third year computer science students. This training programme was aimed at educating them about its use and benefits. As the audience comprised of computer science students, the introductory session to Laravel proved to be beneficial for them.

## **Laravel Workshop for IKM**

A workshop on Laravel was held for Information Kerala Mission (IKM), in 2 batches with 30 participants each by Mr. Jithin in August. One batch underwent 3 days of training which meant 6 days in total. IKM is an autonomous institution under Local Self Government Department with a mandate to strengthen the local self-governance through ICT applications and this workshop enabled them to gain hands-on experience on Laravel which will prove to be of very much use to them.

## **Gender and Free Software**

SPACE had proved highly influential over student communities over these years both in terms of as an organization promoting free software in campuses and also as a supporting organization for their social and academic requirements. Women hackathon is an important initiative in this perspective, which raises and addresses the issue of gender in free software or more generally in technology. With Initiative like this, we are able to influence students more deeply and strongly and thereby get them involved in free software actively where social issues like this were discussed from a humanitarian point of view. Following are the activities conducted by SPACE in this year with this objective in mind.

### **Women Hackathon**

Women Hackathon was conducted for college students from all over Kerala in association with ICFOSS in April, August and September respectively. As the name suggests, Women Hackathon was conducted exclusively for women as an effort to remove the prevailing gender stereotypes on their technological capabilities. The hackathon was conducted in the ICFOSS office in Technopark.

The students underwent a selection process wherein the most interested and keen ones were chosen. Students from Sree Chitra Tirunal College of Engineering (SCT) participated in the month of April in the Women Hackathon. Students from various parts of Kerala got the opportunity to participate in the Hackathon in the month of August while the students of the College of Engineering, Trivandrum (CET) took active part in the event in September. The event also focussed on highlighting the importance of FOSS and spreading awareness about it. The idea was to utilize the students interest and enable them to share with colleagues and friends about the benefits of FOSS. The hackathon included introductory sessions on Free Software and Programming, Expert talks, Film Screening on Free Software, Interactive fun games etc. The event helped in breaking stereotyped surrounding women and technology and helped in spreading awareness about FOSS to the youngsters in the state.

## **Debian Stretch Release Party**

Stretch, which is the development codename for Debian 9 was released on 17th June 2017. To mark its release, SPACE organized a Debian Stretch Release Party on the same day at 11 am in its office. The party saw free software activists from all over Trivandrum assembling in the office to celebrate the release. The party saw film screenings and discussions being held by the free software activists. The discussions were presided over by Mr. Arun and he talked about the various aspects of the new release. Cake and drinks were provided to the attendees who benefited from the programme as they gained information and perspective on the new release.

## **Swatantra Treasure Hunt**

As a part of the Triennial free software conference called Swatantra 2017 conducted by International Centre for Free and Open Source Software (ICFOSS), a treasure hunt was organized with the assistance of SPACE . The event started at 10:00AM on 15<sup>th</sup> November 2017. It was based on the theme 'The path you fear to travel holds the freedom you seek'. The treasure hunt covered a span of 15 days and came to a close on 1<sup>st</sup> December 2017. The participants included more than 1067 registered users with 1,02,525 attempts in whole along with more than 200 users on the official telegram group. The event had 11 winners in three categories which were Student category (3), Techie category (3) and Complimentary winners (5) with a total of one lakh rupees to be awarded to the winners. The treasure hunt was an innovative way of promoting, creating awareness and spreading free software related knowledge as the questions required the user to seek clues from various aspects of the free software world and build connections between them to find answers. The hunt was a successful venture as it saw a lot of participants and helped in promoting free software knowledge among students as well as techies.



## **Install Fest at College of Engineering , Chengannur**

A FOSS Cell Inauguration and Installation Fest was conducted at College of Engineering, Chengannur on 9<sup>th</sup> November 2018. A workshop was held focussing on the basic knowledge of the GNU/Linux Operating System. Giving awareness of GNU/Linux has proven to be essential for students because of its increasing popularity and demand all over the world. The students were given a basic introduction to FOSS and its various technologies and applications. They were also made aware of the functioning of GNU/Linux Operating Systems. Free OS Installation was one of the highlights of the event. Sessions were conducted on free software by Mr. Arun accompanied by Mr. Jithin and Mr. Suman. The fest proved to be useful to many students who were unaware of the benefits of free software.

## **Conclusion**

Definitely this has been an excellent and busy year for SPACE. We were able to initiate some remarkable activities during this period along with continuing the activities that we started earlier . Special care is taken to ensure that such that activities should not lost its current momentum but also need to accelerate at an enhanced pace. Special thanks to the entire SPACE team and all our supporters for all their dedicated efforts in running this great organization in an amazing way. We believe that our activities and actions reached a wider welcoming community and hope that we as an organization had once again proved as a trustworthy center of promoting free software, where free software is a way of life.

