

Communications Society

IEEE ESPE Student Branch

Ecuador Section

Presentation



Figure 1- Official photo of the ComSoc Student Chapter of the IEEE ESPE Student Branch in Sangolquí, Ecuador [1].

The IEEE ComSoc ESPE Student Chapter was formed in May 2019 to promote the development of telecommunications at the Universidad de las Fuerzas Armadas ESPE, seeking to fulfill the objective of IEEE ComSoc. The executive committee is currently made up of Ing. Román Lara, Ph.D. (Chapter Advisor), Lucía Loor (Chair), Kevin Camacho (Vice

chair), Raham Castillo (Secretary), 19 ComSoc student members and 29 additional volunteers.

The Technical Chapter has the main objective of promoting innovation, development, and evolution of communications for the benefit of society, organizing activities that reinforce this area, motivating teachers, students, and the industry. Within the new virtual normality to which the COVID-19 pandemic edged, the chapter has adapted in such a way that it has continued to work and improve to meet the schedule planned at the beginning of the year.

In addition, international achievements, business alliances, university support and growth of volunteers have been obtained with the different projects executed from August 2020 to July 2021.

Institutional organization

The ComSoc Technical Chapter [2] of the IEEE ESPE Student Branch [3], has improved over time, in its Statute [4] it establishes that it is a team made up of IEEE volunteers representing the “Universidad de las Fuerzas Armadas ESPE” Sangolquí,

with the aim of promoting innovation, development and technological diffusion of communications for the benefit of society. The mission and vision in addition to the values of the chapter are intertwined with those established in the indicated institutions and these are:

Mission: Promote innovation, development and technological diffusion

related to the field of telecommunications both in the theoretical, informative, and technical part, complying with the objectives framed by the ComSoc Communications Society and the IEEE for the benefit of humanity [5].

Vision: To be a student chapter recognized within and outside the region for the commitment, camaraderie, and teamwork of its members, responding proactively to the challenges that arise, developing events and projects at the service of the university community, IEEE members. and society [5].

Values: Commitment and Discipline, Development, Teamwork, Fellowship and Solidarity [5].

Thus, the Chapter can develop activities such as conferences, workshops, and contests, which promote the advancement of communications [4].

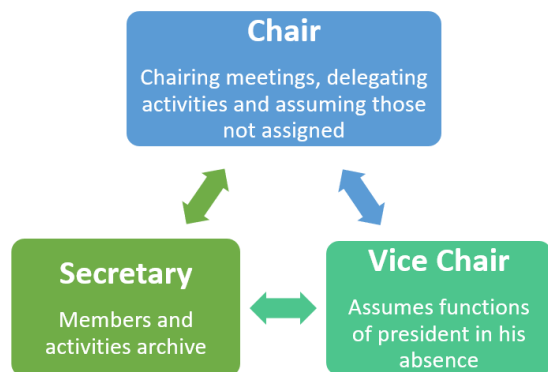


Figure 2- Organizational Chart of the ComSoc Student Chapter of the IEEE ESPE Student Branch [4].

The student leaders of the ComSoc Technical Chapter are President, Vice President and Secretary, while the Treasurer is the same person elected in the IEEE ESPE Student Branch and their obligations can be seen in [4] as well as graphically in Figure 2.

The main tools of the Chapter are: Strategic Planning [5] and Calendar of activities [6], and they are carried out by the elected board prior to the start of their functions to manage future events.

These and those proposed by the members of the Chapter are reviewed and approved by the Executive Committee of the Chapter, formed by the Board of Directors, the Chapter Counselor and the President of the IEEE ESPE Student Branch, the acceptance process is in figure 3.

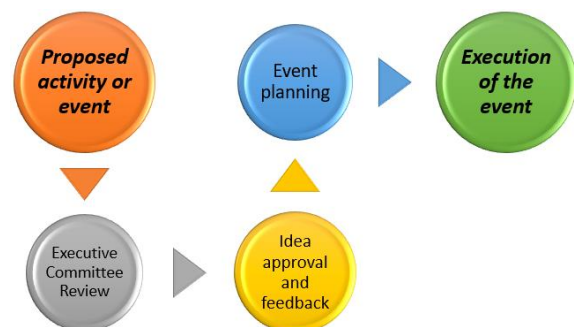


Figure 3- Approval process and planning of activities of the ComSoc ESPE Chapter [4].

To execute the approved ideas, the chapter chair appoints internal committees as seen in figure 4, with their respective functions. [4].

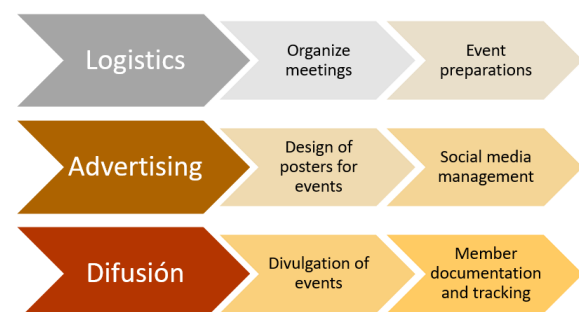


Figure 4- Organizing Committees functions of the ComSoc ESPE Chapter [4].

Documentation strategies for activities

Within the documentation, the directive in function oversees monitoring and recording the activities carried out in the last period as detailed in figure 5.



Figure 5- Documentation strategies used by ComSoc Chapter of the IEEE ESPE Student Branch [4] [5] [6] [7] [8].

Each directive that comes into operation must review, verify, modify and / or carry out the documentation in figure 5 to have its own annual work guide.

The [4] mention the rules that govern it, [5] next to [6] it takes place at least fifteen days prior to the beginning of the year and allows the Board to have an action guide to follow in its functions. According to [4] if possible, 2 meetings a month are held for different activities with the entire Chapter, of which meeting minutes are drawn up [8]; in order to form work teams and designate activities, giving training to future managers.

In parallel, for each event executed a report is made detailing how it was carried out, allowing future replications of the activities.

Along with these documents, the Financial Report is also produced. [7] that shows the income and expenses of the capital within the ComSoc Chapter in the

last period, to maintain a transparent process of expenses.

All documentation is backed up in the Google Drive application of the IEEE ESPE Student Branch account so that you can have free editing access, considering the annual rotation of members in the board, this is also an information transfer strategy.

Internal communication strategies and member integration

During the meetings of the Chapter, of the Executive Committee, of Directors of the IEEE ESPE Student Branch, with SAC Team Ecuador and more, activities are organized, and agreements are established that must be disseminated to the Chapter volunteers, so that communication and socialization of these is essential to meet the objectives set.

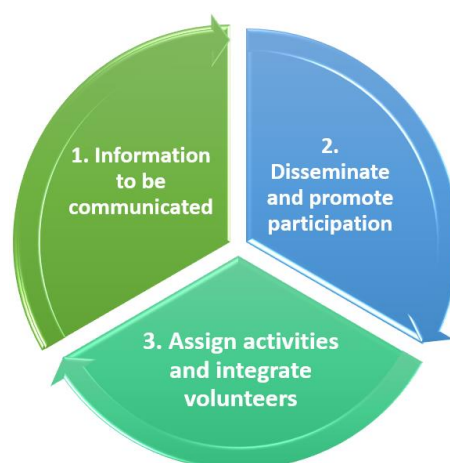


Figure 6- Communication process in the ComSoc Chapter of the IEEE ESPE Student Branch [9].

During the last period, all activities have been maintained virtually, given the COVID-19 pandemic situation and within the ComSoc Chapter a practical three-step strategy is applied [9] as in figure 6.

Applying this communication methodology, effective results have been obtained when carrying out the tasks within the Chapter and without internal problems; so there are three internal communication tools, the first is the email used to send formal invitations.

The second tool is the official WhatsApp group of the Chapter, called “ComSoc IEEE ESPE” [10], is evidenced in figure 7 and is used to promote the agile exchange of ideas between volunteers.



Figure 7 WhatsApp Group ComSoc IEEE ESPE Chapter of the IEEE ESPE Student Branch [10].

Finally, the third tool is used for virtual meetings, one is the IEEE ESPE Discord platform for meetings with the branch and the SpatialChat platform. [11] in figure 8 is for Chapter meetings, since it is more interactive, it has also been used for integration with volunteers, promoting friendship and collaboration.



Figure 8 Video calling platform of the ComSoc Chapter of the IEEE ESPE Student Branch [11].

Training of volunteers

It is important to train ComSoc members and that they have enough tools to carry out activities that promote technological innovation. [4], in addition to improving their soft skills and growing in their professional development.



Figure 9- Publicity for talk of the Soft skills Program of the IEEE ESPE 2021 Student Branch.

This activity was born as an idea of the IEEE ESPE Student Branch to help its members in areas other than technical and the ComSoc Chapter facilitated the management and organization of two talks, one of them with a Clinical Psychologist from Yuyay: Centro Psicológico Integral, su advertising is seen in figure 9.

The virtual talk was a workshop with practical exercises that allowed them to discover the abilities of the members and at the same time give them the opportunity to improve the study techniques they know, in addition to developing their soft skills.

Achievement and administration of funds

The Student Branch with its 2021 directive decided that the money be centralized in the Branch secretariat, with an approximate initial balance of \$ 1147.00 US dollars, which is the patrimony

provided by the past directive and is used for current needs [7].

Table 1- Financial summary for the period August 2020 - July 2021 of the ComSoc Chapter of the IEEE ESPE Student Branch [7].

Month	Activity	Expenses	Revenue
May	TELE-TRIVIA 2.0	\$ 19.14	\$ 0.00
	Web Training	\$ 0.00	\$ 20.00
	Active Member ComSoc	\$ 10.22	\$ 0.00
July	Active Member ComSoc	\$ 10.22	\$ 0.00
	TOTAL	\$ 39.58	\$ 20.00
	Cash Flow	\$ 19.58	

In the ComSoc ESPE Technical Chapter, events are encouraged to be free or sponsored by an allied company, but there are occasions that to improve the experiences of the participants, extra capital is required and in the current period the Student Branch has been asked for the money for different needs, which are detailed in depth in [7], resulting in the final cash flow from table 1.

The expenses of the Chapter in relation to the scope of the events in the communications areas are quite low, thus managing to maintain a minimum expenditure in the activities that promote the technological innovation of the networks for the benefit of humanity. [5].

Planning of activities

Figure 4 shows the process that the Chapter follows to approve the activities to be carried out and even more if they are new ideas; In addition, in the section on "Institutional Organization" and in "Activities Documentation Strategies" it is mentioned that both [5] as [6] are carried out in advance by each new directive before entering to exercise their functions.

Chapter Strategic Planning [5] is a document that sets out the general aspects of the Chapter as its objectives to be fulfilled and more details that form a tool to facilitate group work within the Chapter.

El Calendario de actividades anual [6] de la figura 10 se lo realiza en base a [5] considerando sobre todo la participación en las actividades continuas propuestas por las diferentes entidades de IEEE, así como invitaciones de diferentes instituciones.



Figure 10- Activities calendar of the ComSoc Chapter of the IEEE ESPE Student Branch [6].

The process for planning activities [12] encompasses the basic aspects that can be seen in figure 11.

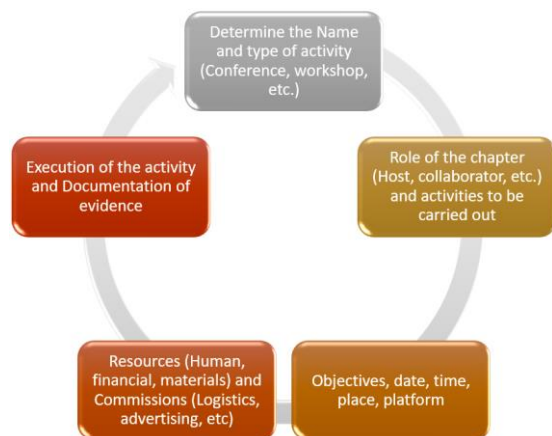


Figure 11- Planning process for the ComSoc Chapter[12].

Therefore, all the documentation carried out by the ComSoc Chapter is used for future directives to reproduce the activities and also to contribute with the details to the “Student Branch Reporting” that is carried out jointly with the directors of the IEEE ESPE Branch.

External communication strategies

Communication with other institutions and the dissemination of the activities carried out by the ComSoc Chapter is very important. Therefore, the main communication channel used is the Chapter's mail with its alias of ieee.org, which is:

- sbc.espe.comsoc@ieee.org

Inside of the Universidad de las Fuerzas Armadas ESPE this means is used to request support and invite to events to the directorates of the Department of Electricity, Electronics and Telecommunications - DEEL as well as that of the Career in Electronics and Telecommunications; figure 12, thanks to this medium, collaboration has been achieved in various events with these departments.



Figure 12- Email requesting support from DEEL of Universidad de las Fuerzas Armadas ESPE

In addition, the website provided by the Chapter is used in a section of the IEEE ESPE Student Branch, which is:

- <https://site.ieee.org/sb-espe/comsoc/>



Figure 13- IEEE ESPE Student Branch ComSoc Chapter Website [13].

Here basic information of the Chapter is shared, as well as its volunteers and photographs of different activities carried out, as shown in figure 13.

With the IEEE tool, vtools.ieee.org broadcasts of executed events are carried out as seen in figure 14, it also allows sending notice and reminder emails to IEEE members.



Figure 14- Evidence of broadcast of event in vTools in which ComSoc ESPE participates [14].

Currently, social networks are important to transmit a message to society, so the ComSoc Chapter has a page on Facebook and Instagram where it publishes its own content, as well as evidence of events so that more and more people meet and join the work of the ComSoc ESPE Chapter. In figure 15 we have the photo of the social networks and their names are:

- Facebook: IEEE ESPE – Communications Society ComSoc [15]
- Instagram: IEEE ESPE – ComSoc [16]

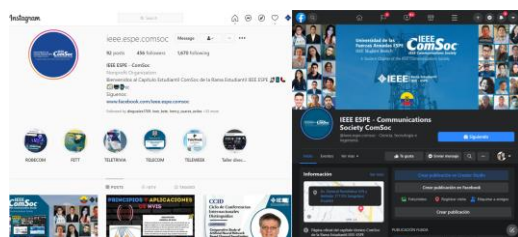



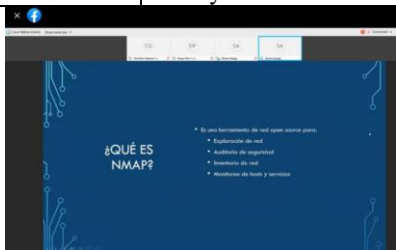
Figure 15- Instagram and Facebook pages of the ComSoc ESPE Chapter [15] [16].

In addition, the social networks of the IEEE ESPE Student Branch are also used (@ ieee.espe) [17] [18] to have a better scope of activities.

Development of projects and activities

The ComSoc ESPE projects and activities that it has organized or been part of the logistics, the most relevant are detailed in table 2 of the year 2020 and in table 3 of the year 2021:

Table 2- Summary of activities organized by the ComSoc chapter from August 2020 to December 2020.

ACTIVITIES 2020									
August 2020									
	Figure 16- Parchis tournament poster [19].								
	<table><tr><td>Name of the event:</td><td>Parchis Star Tournament - Lucky Foundation</td></tr><tr><td>Description:</td><td>Collaboration in a parchis contest, to collect funds and donate to the Lucky Bienestar Animal foundation</td></tr><tr><td>Platform:</td><td>Google Meet</td></tr><tr><td>Beneficiaries:</td><td>Lucky foundation animals</td></tr></table>	Name of the event:	Parchis Star Tournament - Lucky Foundation	Description:	Collaboration in a parchis contest, to collect funds and donate to the Lucky Bienestar Animal foundation	Platform:	Google Meet	Beneficiaries:	Lucky foundation animals
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Platform:	Google Meet								
Beneficiaries:	Lucky foundation animals								
									
Figure 17- First day of the introductory NMAP workshop for cybersecurity [20].									
<table><tr><td>Name of the event:</td><td>Taller Introductorio de NMAP para Ciberseguridad.</td></tr><tr><td>Description:</td><td>Network workshop using Wireshark and analyze</td></tr></table>	Name of the event:	Taller Introductorio de NMAP para Ciberseguridad.	Description:	Network workshop using Wireshark and analyze					
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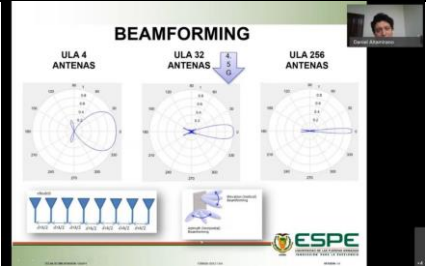







		frames and use NMAP to verify their security.
	Platform:	Webex and Facebook Live
	Beneficiaries:	Average of 100 students in the two days.
October 2020	 <p>Figure 18- IEEE Day 2020 Event Poster [21].</p>	
	Name of the event:	IEEE Day 2020 - IEEE ESPE Student Branch
	Description:	Collaborator in a virtual event for the celebration of IEEE Day, contests, talks and online games.
	Platform:	Discord
	Beneficiaries:	IEEE ESPE students, around 30.
November 2021	 <p>Figure 19- Conference by Ing. Daniel Altamirano at TIESC [22].</p>	
	Name of the event:	TIESC - Tech & Tndustry ESPE Student Chapters
	Description:	Week of virtual conferences focused on new technologies in conjunction with IEEE ESPE Latacunga.
	Platform:	Webex Meetings
	Beneficiaries:	Approximately 40 people were had.

Table 3- Summary of activities organized by the ComSoc chapter from January 2021 to July 2021

ACTIVIDADES 2021		
January 2021	 <p>Figure 20- Talks organized by ComSoc ESPE at IEEE WEEK 2021 [23].</p>	
	Name of the event:	IEEE WEEK 2021
	Description:	Recruitment event of the IEEE ESPE Branch, technical talks of each chapter and possession of directive 2021.
	Platform:	Zoom
	Beneficiaries:	There were 30 participants per day and interested in IEEE.
April 2021	 <p>Figure 21- Programming Fundamentals Workshop given by ComSoc ESPE [24].</p>	
	Name of the event:	Atacazo cIEEEntífico
	Description:	Workshops of experiments and fundamentals of programming for children, together with EMB and WIE ESPE
	Platform:	Zoom
	Beneficiaries:	Approximately 25 boys and girls from 10 to 14 years old.

May 2021	 <p>Figure 22- TELECOM poster with teacher part of the ESPE [25].</p>	
	Name of the event:	TELECOM 2021
	Description:	Conference week for International Telecommunications Day, together with ComSoc Ecuador.
	Platform:	Webex Meetings
	Beneficiaries:	In the whole week there were 70 participants
	 <p>Figure 23- Facebook Live broadcast of the event [26].</p>	
	Name of the event:	TELE-TRIVIA 2.0
	Description:	Telecommunications question contest organized together with ComSoc UPS Cuenca
	Platform:	Zoom, Discord and Facebook Live
	Beneficiaries:	Around 50 students.

June 2021	 <p>Figure 24- Exhibitions of thesis topics and assistants at FETT [27].</p>	
	Name of the event:	FETT – Feria de Temas de Tesis
	Description:	Two days of talks with teachers to show thesis topics available from DEEL.
	Platform:	Zoom
July 2021	Beneficiaries:	ESPE students around 70.
	 <p>Figure 25- Artificial vision and Node-Red workshop [28].</p>	
	Name of the event:	ROBECOM – Sistemas Ciber-físicos
	Description:	Free theoretical and practical application workshops with Node-Red and Artificial Vision, together with RAS and EDS from Universidad San Carlos de Guatemala.
	Platform:	Zoom y Google Meet
	Beneficiaries:	About 60 students and professionals

 <p>Figure 26- Transmission of conversation with DEEL teachers and Ucapem Group company [29].</p>	
Name of the event:	Conversatorio: Evolución de las Telecomunicaciones en Ecuador
Description:	Discussion with Ucapem and DEEL teachers for the National Telecommunications Day.
Platform:	Google Meet and Facebook Live
Beneficiaries:	Between 30 students and professionals

Tables 2 and 3 summarize the events with the greatest impact of ComSoc ESPE in [6] the most special ones such as the International and National Telecommunications Day, with TELECOM together with ComSoc Ecuador and the Conversatory with the UCAPEM company. Similarly, ROBECOM, which is international with Guatemala, TELE-TRIVIA 2.0, which is with ComSoc from UPS Cuenca, and also the FETT, which highlights the link with DEEL in ESPE, stands out.

Associations

ComSoc ESPE continually seeks strategic alliances with different companies, to have sponsorships. A catalog was made, figure 27, to send as a cover

letter to the companies, and there was a response from two institutions.



Figure 27- ComSoc ESPE Catalog [30].

The IMTEL company that integrates services and products of technological infrastructure, the alliance was established at the beginning of June 2021 to help in free talks and workshops.

At the beginning of July 2021, UCAPEM Group, which is dedicated to giving certified courses such as CISCO, VMware, etc., became the second alliance of the Chapter, in figure 28 you have the evidence of the meeting.

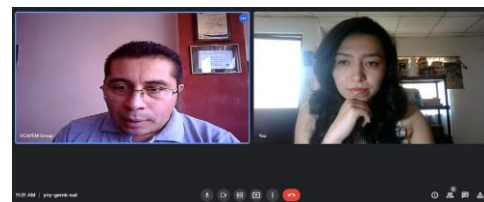


Figure 28- Evidence of meeting with UCAPEM Group.

In the same way, we constantly work with the internal activities of the Student Branch, its chapters and affinity group, such as the Atacazo cIEEEntífico event (Table 3, figure 21) which was a workshop for children, on experiments and programming fundamentals between WIE , EMB and ComSoc ESPE.

Participation of IEEE events and contests

In the current period the ComSoc Chapter has endeavored to attend IEEE meetings and events such as:

IEEEExtream Programming 14.0 in October 2020: First virtual edition that participated in the ComSoc Chapter thanks to the LosMasCapos team, and they obtained the 8th place in the Ecuadorian ranking, figure 29.

FELICIDADES	
1. Ozeimons	Universidad de las Fuerzas Armadas - ESPE
2. LUCHOla	Escuela Politécnica Nacional
3. OzeimonsESPE	Universidad de las Fuerzas Armadas - ESPE
4. EquilibradosDont	Universidad de las Fuerzas Armadas - ESPE
5. Malasochados	Yachay Tech University
6. SystemCall	Universidad de Cuenca
7. VivaLaPatria	Universidad Politécnica Salesiana-Cuenca
8. LosMasCapos	Universidad de las Fuerzas Armadas - ESPE

¡Gracias por representar a nuestra Universidad y posicionarla en el top 10 del Ecuador!

IEEE Rama Estudiantil IEEE ESPE

Figure 29- IEEE ESPE and ComSoc ESPE Winners Congratulations Poster at IEEEExtream Programming Competition 14.0 [31].

RNR - National Meeting of Branches in September 2020: Talks, contests, country fair and more activities where the Chapter actively participated.

SBRM - Student Branch Regional Meeting in November 2020: The first edition of the virtual SBRM was very enriching for the ComSoc Chapter due to the knowledge learned and the international contacts achieved.

Directors' Workshop 2021 in April 2021: Various teachings and tools, in addition to tasks that the SAC Team Ecuador team taught the Branches and the Chapter contributed at the Branches fair, figure 30.



Figure 30- ComSoc at Executive Workshop 2021

RCCC 2021 - Regional Chapter Chair Congress in May 2021: ComSoc of Latin America region (R9) opened the congress of professional chairs to students and ComSoc ESPE attended and expanded its knowledge regarding ComSoc membership, figure 31.



Figure 31- ComSoc ESPE at RCCC - day 3

Extended meeting of members and non-members IEEE ComSoc Ecuador perspectives and Future in May 2021: The Professional Chapter ComSoc Ecuador held a meeting at the end of TELECOM with interactive activities to know the expectations regarding membership, figure 32.



Figure 32- ComSoc ESPE at the final TELECOM event

Membership incentive

The ComSoc ESPE Chapter proposed the Active Member ComSoc initiative which is an award for the most participatory member of each month and is awarded a certificate, publication in networks and a small amount of capital so that the volunteer feels that their work is valuable and rewarded. In this way, the winners continue to participate, and the others continue to participate, in addition to acquiring the membership.

Within the Branch there have been recruitments, with games, dynamics, and small prizes; The ComSoc chapter presented its benefits, projects, and alliances so that students feel motivated to join, figure 33 is the photo of welcoming new members.

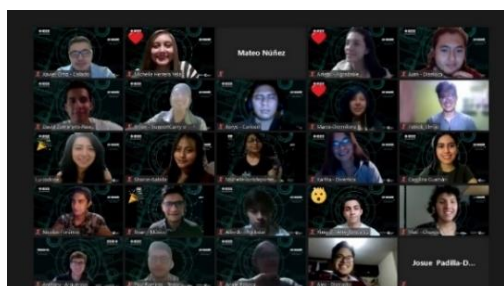


Figure 33- Recruitment and incentives for new members of the IEEE ESPE Student Branch.

A significant drawback of ComSoc is that student membership costs only \$ 1, a major reason why most members in this period (12 students) are new [5].

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