LEARNING-SERVICE IN COMPUTER SCIENCE, AN OPPORTUNITY TO WORK IN ACCESSIBILITY

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Abstract:

The universities have to provide the students with opportunities to acquire knowledge, but also to gain a sense of community and personal responsibility, preparing them to the professional world (Overton, 2015). Learning-Service (LS) is a methodology which provides educational experiences on a practical level, with a high impact on the students because of the meaningful community service activities. Faculty and community partners also receive benefits from the collaboration (Bringe et al., 2023).

Most of the projects that apply LS in universities are developed in education, social or health studies (Salam et al., 2019). This is due that they are more related to the service to the community, even implementing some practices in real contexts. However, it is hard to find projects applying LS in the Computer Science area, focusing the most of them in teaching the community partner concepts related to the area, such as programming, or office programs.

In the University of Granada we are applying LS in the area of Computer Science, developing accessible applications for different community partners that have people with special needs. Each year we collaborate with a different community partner: an association, a school, or a non-profit organization. The last year, our partner was a special education school, whose students needed a mobile application with agenda of personalized activities to be carried out step to step, such as, making the bed, cleaning or cooking. This application had to be accessible for students with cognitive, visual or auditory disabilities. They also need a web application to manage the school student's profiles, and the activities.

To give more detail of our experience, we will describe the steps followed in the application of LS:

1. The faculty prepare materials: user requirements, technical specifications, surveys, etc.

2. The students are grouped into 6-person teams, with different roles. Each team analyses the materials and prepare an interview.

3. The community partner is interviewed to complete and clarify the requirements.

4. The students visit the community partner to know better its activities and the needs of its users.

5. The faculty prepare material to learn about accessibility and soft-skills, including practical activities, as the visit of a blind person, and the talk of a coaching.

6. The teams develop the applications following agile methodologies, which allow to create prototypes in an incremental way. The community partner collaborate with the students in the specification of requirements, design, validation and final tests. All the teams have to develop the same applications, but they decide about their chronograms, designs and technologies. One of the prototypes is selected to be used by the partner.

7. The students, faculty and community partner complete a survey to assess the experience.

Our experience of using LS in very rewarding. The survey's results shows that the project is useful for the future professional of our students because the collaboration with real entities, as the community partner. They also are more aware of the need to develop accessible and inclusive software, feeling now better prepared (Rodríguez-Fortiz et al., 2023).

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