Let’s FOCUS: Location-based Intervention Tool to Mitigate Phone Use in College Classrooms

Inyeop Kim1, Gyuwon Jung1, Hayoung Jung1, Minsam Ko2, Uichin Lee1
1KAIST, 2Artificial Intelligence Research Institute

Background

- Smartphone is a useful learning tool, but it sometimes becomes a source of distraction during the class.
- There was no attempt to mitigate students’ phone use in the context of the class.
- Therefore, we propose a location-based intervention tool to help college students self-regulate their phone use during the class.

Main Features

Focus mode:
- A class is associated with a corresponding virtual limiting room (Wi-Fi fingerprints near the classroom were used).
- Once a student enters a virtual room, the other applications are blocked.
- Information of the class (e.g., class title, instructor) and other students who are engaged in the room (e.g., state, limiting record) is presented.

Temporary use mode:
- Five minutes is allowed during the focus mode for occasional use (e.g., searching information).

Searching a virtual room:
- User interfaces for class search are provided (typing class name or filtering).

Creating a virtual room:
- Students can also generate a new room for their own purpose.

Timeline:
- The application displays all the student’s limiting activities in a time sequence for reflection of student’s limiting behavior.

Real-world Campaign

Technical environment setup:
- We identified 1,003 lectures and collected all Wi-Fi fingerprints near the classrooms and lecture information.
- We generated virtual limiting rooms for all the lectures of the semester.

Campaign procedure:
- We uploaded Let’s FOCUS to app stores.
- We offered giveaways to improve bootstrapping (about $5), and the campaign lasted for six weeks.
- We collected users’ usage logs (n=379) and conducted an exit survey (n=177) and an interview (n=19) after the campaign.

Evaluation

Deployment summary:
- 379 students limited their phone use for 9,335 hours (including during the class and the individual study) over the campaign period.

The user experience of Let’s FOCUS:
- Students reported that they could focus better on the classes and five-minute allowance was useful.
- Students were motivated to maintain limiting behavior by comparing their limiting records with others students.
- We identified active users (n=177) after the campaign, even there was no reward.

Conclusion

- We presented Let’s FOCUS to help students concentrate on the class, and identified its usefulness. Our work is the first large-scale trial of software intervention in the context of class.