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|  | **HASAN KALYONCU UNIVERSITY****Computer Engineering Department****COME 499 Project Proposal Form** |

**Part I. Project Proposer**

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**Part II. Project Information**

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| **Starting Term** |

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| **Title of the Project** | **Mobile Automatic Class Attendance with Face Detection and GPS** |
| **Project Description** |
| Manual class attendance is a time consuming task during the class time especially for the classes with large number of students. It could very helpful to have reliable and easy-to-use automatic class attendance system. Nowadays, mobile phones have become indispensable for most university students. An online attendance system can be developed so every student can be connected to the system with his/her user account to mark the attendance to the class. In order to increase the reliability of the developed system, a face detection algorithm and GPS location of the student will be evaluated in the system. System will enable students to use the system for several times (expected to be beginning and end of the lectures – multiple entries might occur in case of breaks for courses more than one hour), so that students’ attendance durations will be tracked as well. A few assumption or flexibilities might be integrated into the algorithm to make it work efficient, reliable and fast. |
| **Project Justification** |
| **Novelty** |
| **New aspects** | Development of an online system for automatic attendance with the features of face dedection feature and GPS locator. Cameras will be installed in the classes for automatic monitoring of the classes Creation of automatic attendance system and embedding with university portal system |
| **Complexity** |
| **Challenging problem and issues** | Designing efficient and useful program layout for the class attendance system.Making face detection work with different days with different looks. Testing GPS location indoor and coming up with a reliable algorithm for the GPS. A specific location can be used to set the accuracy of the GPS value for the phone. |
| **Related computer science fields and subfields** | Online Database Management, Face Detection, GPS, and Android Programming  |
| **Tools** | Android Studio or Cross PlatformsFirebase Database SystemWeb Programming may be used for admin panel (not required/preference) |
| **Risk involved** |
| **Potential problems and alternative solutions** | GPS location in buildings might not precise indoor. Face detection with/without mustache, beard, or longer hair might nor precise. These issues will be tested repeatedly and acceptable flexibilities will be included in the developed application to be worked.  |
| **Minimum work required** | 2 Semesters – 6th and 7th semesters.  |