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An Attendance-Tracking System Employing Face-Recognition and Handwriting-Recognition Technologies Combined with End-of-Month-Attendance Profile

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Abstract – Punctuality is determined by attendance record. In most Pakistani institutions, strict code of minimum attendance exists to appear in final examination (IBA 87%; SZABIST 80%; University of Karachi 75%). Last one has 3 slots — ≥75% (OK: shown in light green in the attendance-tracking system); 60%-75% (conditionally allowed, subject to condoning by Chairman of Department /Director of Institute or Center 5%, Dean of Faculty 5% and Vice Chancellor of University 5%: shown in light yellow — region of probation); less than 60% (not allowed, must repeat courses: shown in pink — region of disqualification). Often, students are unable to calculate this attendance and, hence, come in a state of shock, when the final list of attendance is displayed on the notice board. Some students start pressurizing course supervisor to alter their attendance record, at times, becoming aggressive. In order to guide the students and to protect the course supervisors, monthly-attendance-tracking system is proposed and implemented by author, while teaching in University of Karachi. Instead of requiring the student to compute these percentages, the software computes the percentages based on total number of lectures conducted in the previous month and displays them on the notice board on the first of every month. By the seventh of each month, attendance record is forwarded to Office of Vice Chancellor through proper channel as proposed in 2005 HEC Scheme of Studies (page 13) prepared by author. Manual roll-call is to be replaced by signing in pre-prepared list (handwriting recognition), biometrics and face recognition using moiré-fringe topography/dotted rasterstereography.

Attendance-Tracking System • Dotted-Rasterstereography (page 620) • Handling Trouble-Making and Troublerd Students • Moiré-Fringe Topography

Video-Recorded Presentation • Program (page10, 2nd entry) • Certificate of Participation • Abstract Booklet • Full Text

Keywords – Biometrics, Dotted-rasterstereography, Moiré-fringe topography, Region of disqualification, Region of probation

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