PrepTrack: AI-Driven Placement Progress Logger

Project Synopsis Submitted

to

MANIPAL ACADEMY OF HIGHER EDUCATION

For Partial Fulfillment of the Requirement for the

Award of the Degree

Of

Bachelor of Technology

in

Computer and Communication Engineering

by

Pavit Agrawal, Rajat Goyal

Reg. No. 230953406, Reg. No. 230953362

Under the guidance of

Mrs. Pooja S (Lab Faculty 1)
Assistant Professor – Senior Scale
School of Computer Engineering
Manipal Institute of Technology
MAHE, Manipal, Karnataka, India

Ms. Jayashree Hegde K (Lab faculty 2)
Assistant Professor –Senior Scale
School of Computer Engineering
Manipal Institute of Technology
MAHE, Manipal, Karnataka, India

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
A Constituent Unit of MAHE, Manipal

February 2026

Objective:

The main goal is to create a streamlined, repeatable, and lightweight analytics framework for preparation that fits easily into students' daily routines. It should also provide valuable insights into productivity and analyze behavioral trends.

Here's a breakdown of the specific goals:

Comprehensive Preparation Tracking: Make sure that students can consistently log their coding practice, interview prep hours, and problem-solving activities within the application. This should work without needing any outside tracking tools.

Compatibility and Ease of Access: Ensure that the framework works well with standard Android devices and popular database systems, making it easy to deploy and access.

Data Reliability and Analysis: Optionally include statistical methods to analyze correlations and structured insights to identify performance trends and validate productivity levels.

Scope:

The Placement Prep Mood & Progress Logger focuses on logging application-layer data and analyzing the behavior of students getting ready for placements. It needs to provide consistency, reliability, and valuable insights, even if users log their data inconsistently or over long preparation periods. The project encompasses:

- Daily logging of preparation activities like coding hours, interview prep hours, and problems solved.
- Mood tracking using a numerical rating scale.
- Statistical analysis of the correlation between mood and productivity.
- Graphs that visualize weekly and monthly trends.
- Basic behavioral modeling using descriptive statistics and correlation metrics.

Need for the Application:

Preparing for placements calls for discipline, consistency, and self-awareness. Unfortunately, many students just jot down notes or rely on their memory, which doesn't give them measurable insights into the quality of their prep. Plus, emotional ups and downs can significantly affect productivity, and they often go unmeasured. The Placement Prep Mood & Progress Logger addresses this issue by:

- Promoting structured logging by the end of each day to make preparation habits measurable and analyzable.
- Providing insights based on correlations, helping students see how their mood impacts their coding and interview prep effectiveness.
- Being lightweight enough to run smoothly on standard Android devices and personal computers with moderate specs, making it suitable for student use.

Project Description:

Traditional methods of tracking preparation often depend on manual notes or spreadsheets, which can make analyzing behaviors inconsistent and unreliable. The Placement Prep Mood & Progress Logger tackles this issue by adding a lightweight, database-driven analytics component that works entirely within the app:

Logging & Data Storage:

The app assigns a unique Log ID for every entry and keeps track of preparation metrics, such as coding hours, interview preparation time, problems solved, and mood ratings, all stored in a structured database.

Users can access historical data for analysis and can update or review their entries as needed.

Analytics & Correlation:

The app will summarize weekly and monthly data, calculate the correlation between hours spent preparing and mood levels, and create graphs to visualize productivity trends. It will interpret the aggregated data to generate structured performance summaries.

Insight Generation:

We can add statistical summaries and structured interpretations so users can spot patterns, recognize productivity shifts, and tweak their preparation strategies as necessary.

Data Management Options:

Users can segment their reports by time period, allowing for daily, weekly, or monthly intervals. Alternatively, automated summary generation can trigger analytical insights at set intervals for tracking long-term preparation.

Hardware Requirements:

Personal Computer (i5 processor, 8GB RAM) or equivalent system
Android smartphone (Android 8.0 or above)
Minimum 32GB storage for development environment
Internet connectivity for development and deployment

Software Requirements:

Operating System: Windows
Platform: Android Studio (latest stable version)
Languages & Libraries:

- Java (Android Development)
- Room Database (local data storage)
- MPAndroidChart (data visualization)
- MySQL (optional for extended database support)

Submitted by

Name	Registration number	Roll Number	Semester & Branch	Section
Pavit Agrawal	230953406	49	VI (CCE)	B
Rajat Goyal	230953362	41	VI (CCE)	B

Literature Review

PrepTrack: AI-Driven Placement Progress Logger

Abstract

The concept of a "Placement Prep Mood & Progress Logger" app is not a formally defined scientific construct in the existing peer-reviewed literature; instead, it represents an integration of several well-established research areas. Therefore, a direct literature search for this exact term would not yield specific papers. However, its core functionalities—encompassing progress tracking, mood logging, self-monitoring, and support for placement preparation—are extensively covered in various scientific domains, including educational psychology, digital health, and human-computer interaction. This literature review identifies and reviews relevant papers across these domains, providing a robust foundation for understanding the app's components and underlying principles.

1 Self-Monitoring and Progress Tracking in Academic and Professional Contexts

Self-monitoring is a critical metacognitive strategy associated with improved academic performance and self-regulated learning. It involves individuals systematically observing and recording aspects of their behavior, performance, or psychological states.

1.1 Latent profile analysis of university students' self-management and self-monitoring in the links among motivation, engagement, and well-being

Authors: Zhao and Ling (2022)

This study investigates the interplay between self-management and self-monitoring in university students, highlighting their significant roles in fostering motivation, academic engagement, and overall well-being. It underscores the importance of self-monitoring as a component of self-directed learning, which is directly relevant to students preparing for placements. The findings, based on a sample of Chinese university students, reveal distinct profiles of self-management and self-monitoring behaviors and their associations with positive academic and psychological outcomes.

1.2 The effects of self-monitoring on strategy use and academic performance: A meta-analysis

Authors: Guo (2022)

This meta-analysis synthesized results from 36 experimental studies involving 2,617 participants, demonstrating that self-monitoring interventions have positive, moderate effects on both strategy use and academic performance. The paper provides strong evidence for the efficacy of self-monitoring as a pedagogical tool, supporting its integration into applications designed for academic and career preparation. Effective self-monitoring enhances metacognitive control, a core aspect of self-regulated learning.

1.3 Let Learners Monitor the Learning Content and Their Learning Behavior! A Meta-analysis on the Effectiveness of Tools to Foster Monitoring

Authors: Dignath et al. (2023)

This meta-analysis specifically examines the effectiveness of various tools designed to foster monitoring in learners, such as learning journals and portfolios. The findings indicate that such tools positively influence learning-related variables including academic achievement, self-regulated learning, and motivation. This directly supports the utility of a "Progress Logger" component in an app, as it acts as a digital tool to facilitate self-monitoring of learning behaviors and content.

1.4 Implementation of a structured revision program and the impact on final-year undergraduate nursing students' preparedness for clinical placement: Mixed methods study

Authors: Irvine et al. (2023)

While focused on nursing students, this study explores how structured programs impact students' preparedness for clinical placements, affecting confidence, anxiety, and self-doubt. The findings suggest that interventions aimed at preparation can significantly improve students' perceptions of readiness. This provides a contextual understanding for the "Placement Prep" aspect of the app, emphasizing the psychological benefits of structured preparation and self-assessment before critical professional experiences.

2 Mood Logging and Mental Health Support in University Students

University students frequently experience mental health challenges, such as anxiety and stress, which can impact their academic performance and job search behaviors. Digital tools, including mood logging functionalities, are increasingly recognized as effective for managing psychological distress and providing accessible support.

2.1 Understanding University Students' Perspectives towards Digital Tools for Mental Health Support: A Cross-country Study

Authors: Riboldi et al. (2024)

This cross-country study explores university students' experiences and perspectives regarding digital tools for mental health support. It highlights that digital technologies are seen as effective options for managing psychological distress due to their accessibility and cost-effectiveness. The findings underscore students' receptiveness to using digital platforms for mental health, validating the inclusion of a "Mood Logger" component in a placement preparation app.

2.2 Mental Health-Related Digital Use by University Students: A Systematic Review

Authors: Montagni et al. (2020)

This systematic review synthesizes studies on mental health-related digital use among students worldwide. It confirms that the internet and new technologies are widely used by students for mental health information and support, addressing a major public health concern in higher education. The review provides evidence that digital platforms can be valuable resources for students, directly supporting the rationale for a mood logging feature within the proposed app.

2.3 Psychological distress and academic success: a two-year study comparing the outcome of two online interventions at a university counseling and consultation service in Italy

Authors: Mammarella et al. (2024)

This study evaluates the effectiveness of online interventions provided by a university counseling service, noting that enhancing effective online interventions can significantly support student well-being. Although not directly about mood logging, it reinforces the broader impact of digital interventions on student mental health and academic success, providing context for how continuous mood tracking could contribute to early detection and self-management of distress during placement preparation.

2.4 Job search anxiety and flourishing among university students: the serial mediating effects of social support and strengths use

Authors: Kwak et al. (2025)

This research highlights the increased job search anxiety among university students due to employment uncertainty. While focusing on social support and strengths use, the study contextualizes the psychological stressors faced by students during career preparation. A mood logger could serve as a tool to help students monitor and identify patterns in their anxiety levels, potentially enabling them to seek support or employ coping strategies.

3 Mobile Application Development and Technological Stack Considerations

The development of a mobile application necessitates consideration of user interface, data management, and ethical use of data.

3.1 Developing Classifiers through Machine Learning Algorithms for Student Placement Prediction Based on Academic Performance

Authors: Maurya et al. (2021)

This paper discusses the challenging issue of student placement in educational institutions and proposes supervised machine learning classifiers to predict student placement based on academic performance. While primarily focused on AI for prediction, it underscores the importance of structured data related to student performance (a type of progress tracking) for analytical purposes, implying the need for robust data collection and storage mechanisms within an app.

3.2 ConXR: A Comparative Participatory Platform for Construction Progress Monitoring

Authors: Pradeep et al. (2024)

This paper, though from the construction industry, highlights the development of easy-to-implement platforms for automated data capture and visual representation of progress. It demonstrates the general principles of developing digital tools for progress monitoring, emphasizing the need for accessible data input and clear visualization capabilities, which are directly transferable to a “Progress Logger” app for placement preparation. It suggests the use of user-friendly interfaces to facilitate data entry and provide immediate, understandable feedback.

4 Conclusion

This selection of literature provides a foundational understanding for the development and rationale behind a "PrepTrack: AI-Driven Placement Progress Logger" app, addressing its core functionalities related to self-monitoring, mood tracking, and progress visualization, alongside broader implications for student well-being and technological implementation. The reviewed studies collectively demonstrate the effectiveness of self-monitoring tools, the growing acceptance of digital mental health interventions among university students, and the importance of user-friendly design in progress tracking applications.