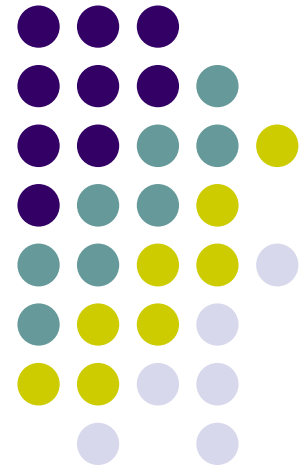# Ubiquitous and Mobile Computing
CS 528: *Study Helper*

Varatharaj, Ashvini
Yuxiang Bao
Stegall, Jabari Cornell
Dimitrios Tsiakmakis
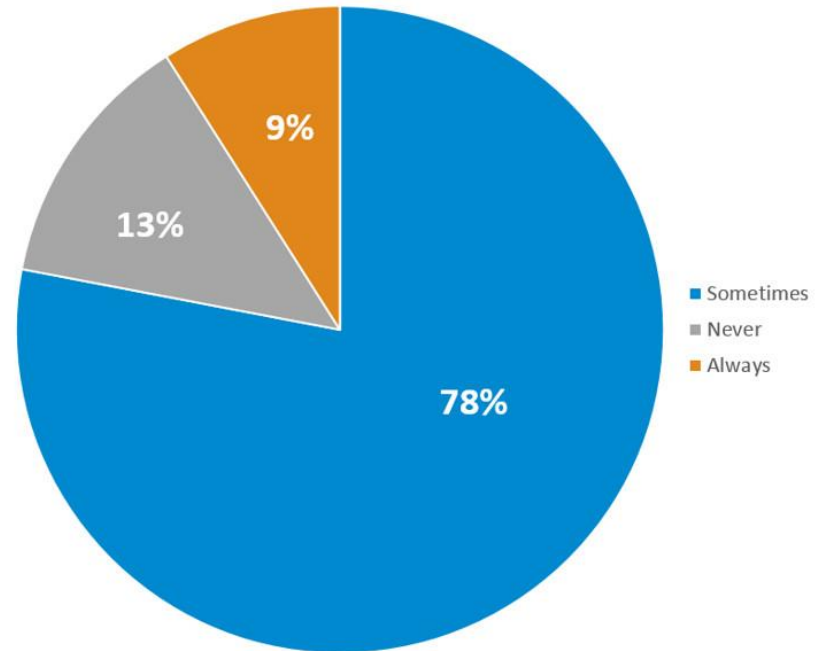
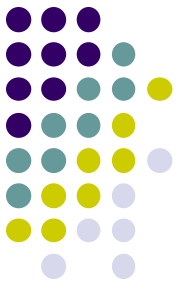*Computer Science Dept.*
Worcester Polytechnic Institute (WPI)

Problem we are tackling

Students struggle on how to manage and set study time. Being familiar with common managing time practices can help many students.

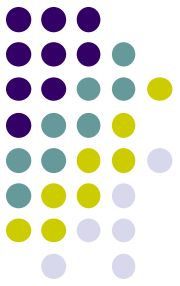Students: Do you struggle with managing your time?

- Sometimes — 78%
- Never — 13%
- Always — 9%

CENGAGE Learning

Importance

- Students have to complete a substantial amount of work and assignments in their academic quarter or semester. Proper time management is important for satisfactory academic performance.

Our way to solve the problem

Create a mobile app that will:

- Help students set an initial study schedule.
- Prompt students to begin study tracking based on set study schedule or they can manually initiate study tracking.
- Track the study by location, to find best personalized study places.
- Update family members or friends with texts on your study progress .
- Motivate students with notifications.
- Study schedules can be optimized based on collected study data (Possible feature).
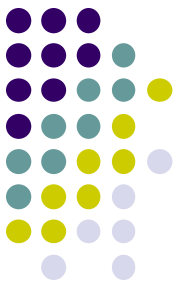
Related App Work
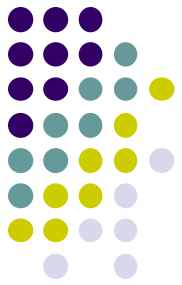
My Study Life

Free planner app designed to help you manage study time.
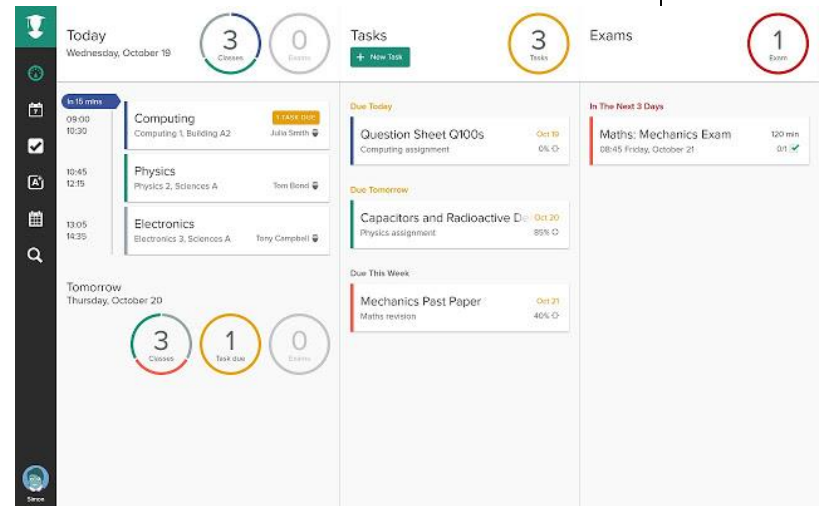
Forest

App that will help you stay focused on whatever it is you are doing, whether it is studying or just spending time with friends.
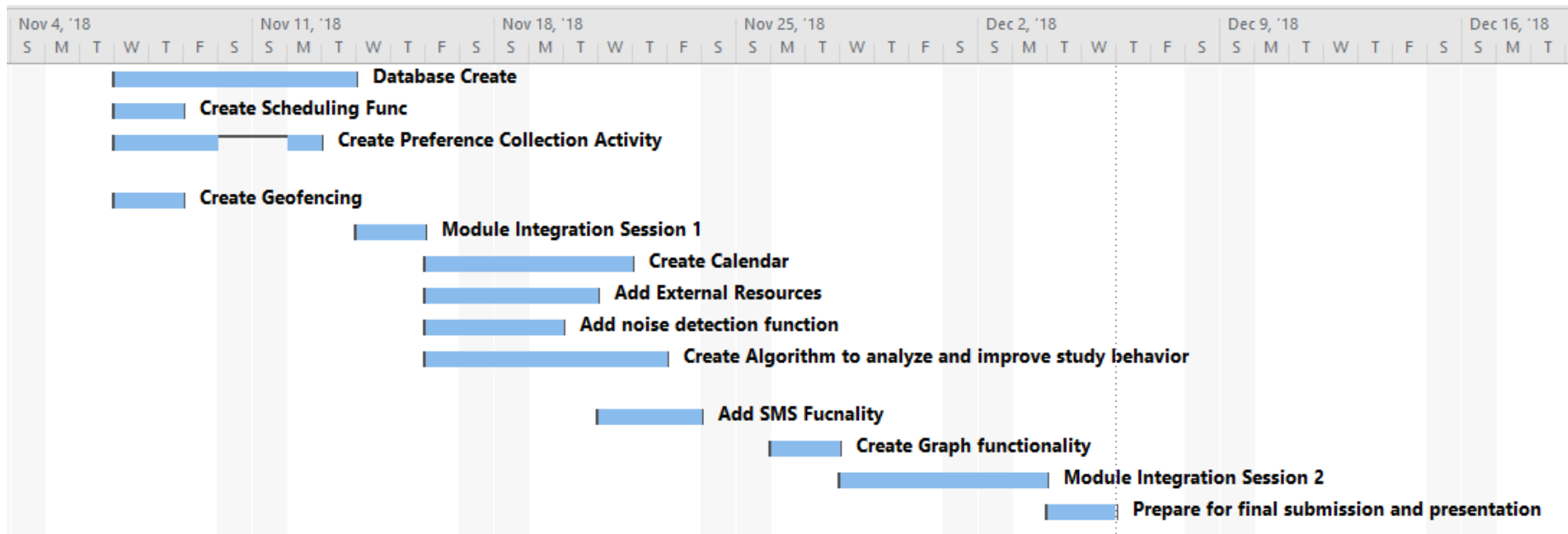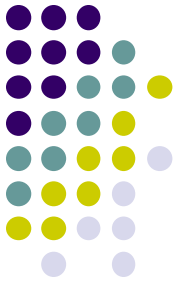
Related Paper's Work

- "Study habit and its impact on secondary school students' academic performance in biology in the federal Capital Territory, Abuja"
  - Good time management
  - Setting Clear Goals
  - Allocate adequate study
- "Performance of College Students: Impact of Study Time and Study habit"
  - Study Time related to performance
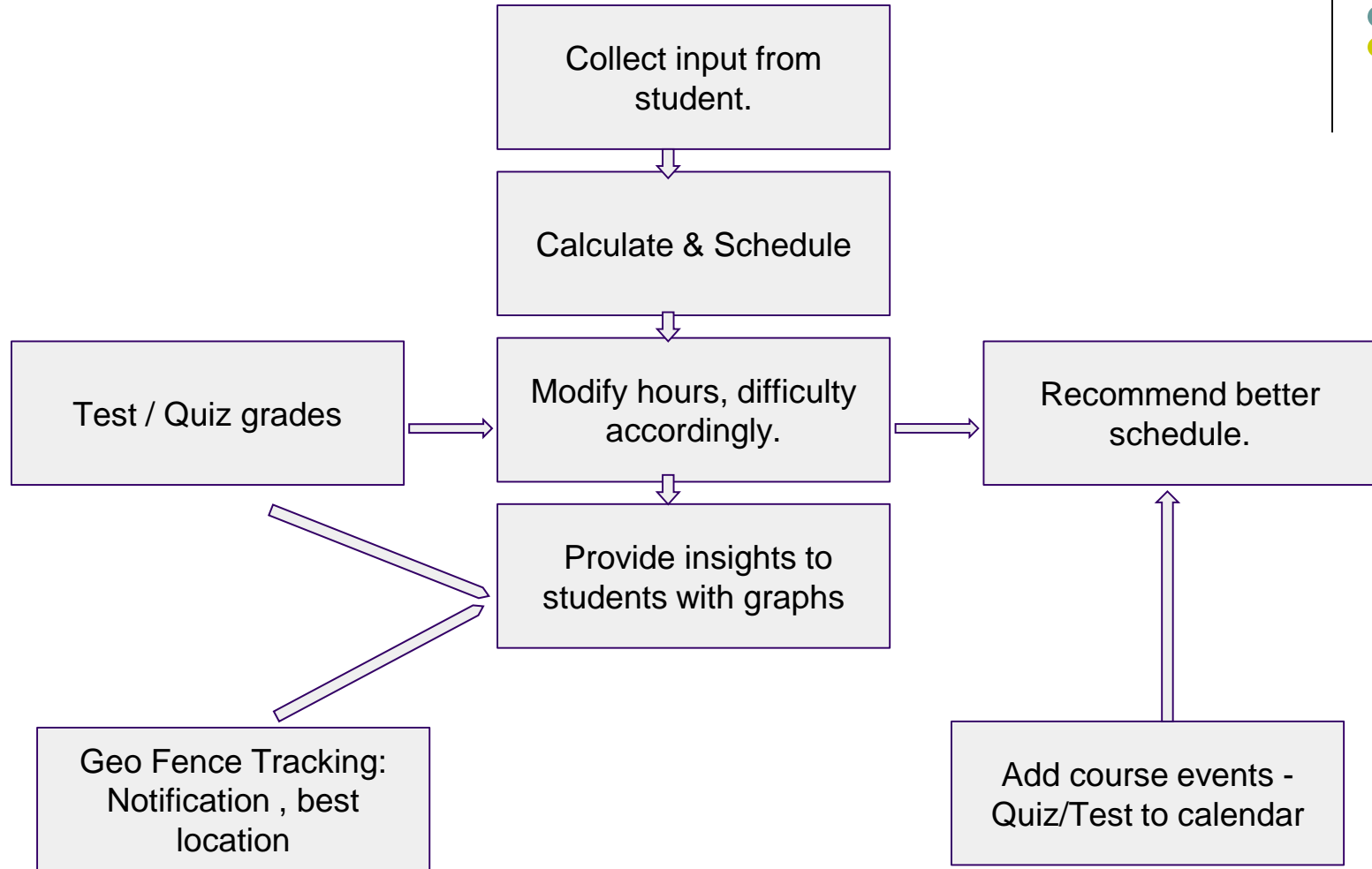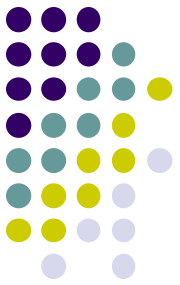 - Study habits influence performance

Timeline
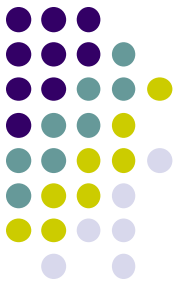
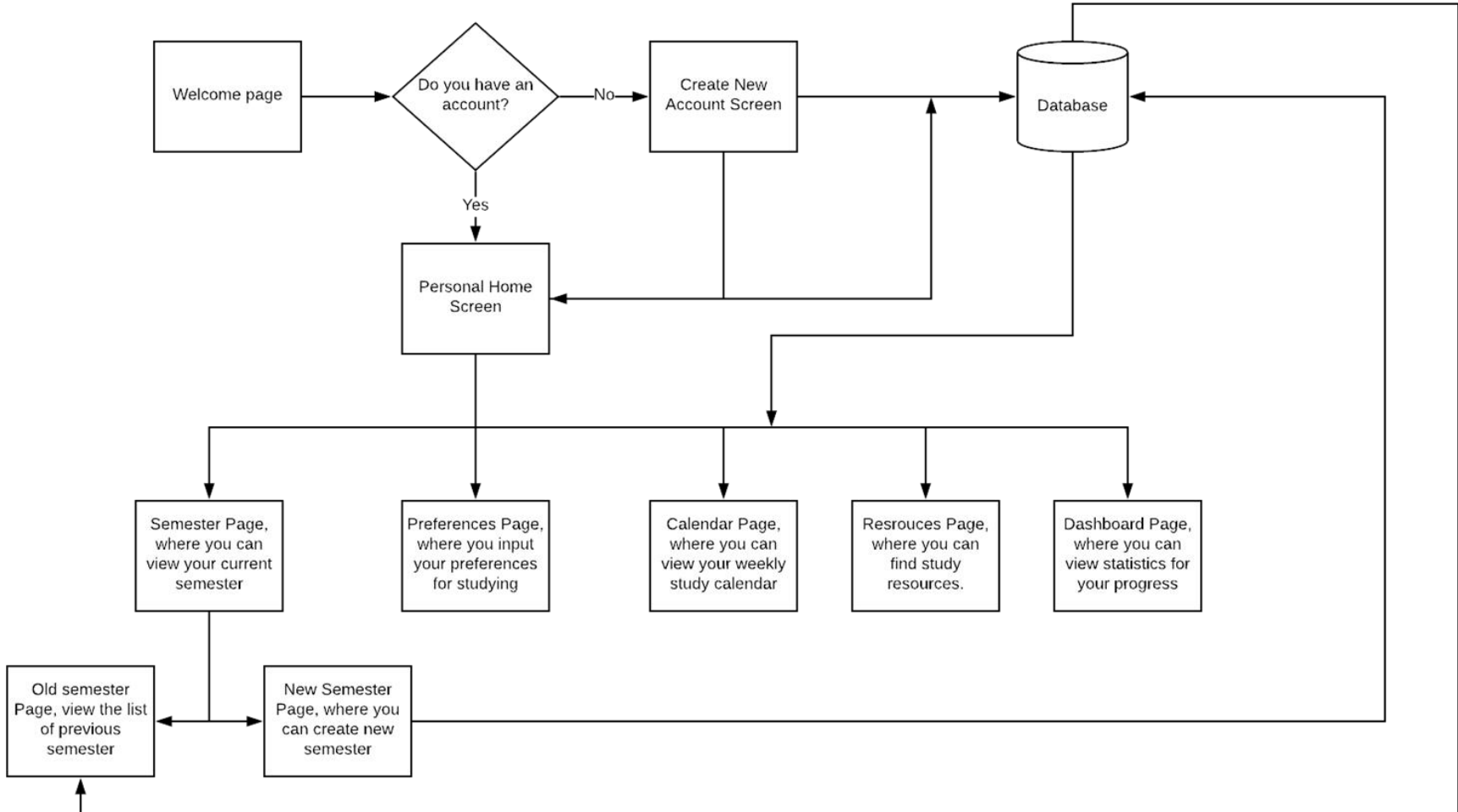| Task Name	Duration	Start	Finish	Predecessors	Resource Names
▷ **Plan App Development**	1 day	Mon 11/5/18	Mon 11/5/18		Ashvini,Charles,Dimitrios,Jabari
▷ **Database Create**	5 days	Wed 11/7/18	Tue 11/13/18	1	Ashvini
▷ **Create Scheduling Func**	2 days	Wed 11/7/18	Thu 11/8/18	5SS,1	Charles
▷ **Create Preference Collection Activity**	4 days	Wed 11/7/18	Mon 11/12/18	5SS	Dimitrios
▷ **Create Geofencing**	2 days	Wed 11/7/18	Thu 11/8/18	5SS	Jabari
▷ **Module Integration Session 1**	2 days	Wed 11/14/18	Thu 11/15/18	1,9,12,16,5	Ashvini,Charles,Dimitrios,Jabari
▷ **Create Calendar**	4 days	Fri 11/16/18	Wed 11/21/18	16,40	Jabari
▷ **Add External Resources**	3 days	Fri 11/16/18	Tue 11/20/18	12,40	Dimitrios
▷ **Add noise detection function**	2 days	Fri 11/16/18	Mon 11/19/18	5,40	Ashvini
▷ **Create Algorithm to analyze and improve study behavior**	5 days	Fri 11/16/18	Thu 11/22/18	9,40	Charles
▷ **Add SMS Fucnality**	3 days	Wed 11/21/18	Fri 11/23/18	21,40	Dimitrios
▷ **Create Graph functionality**	2 days	Mon 11/26/18	Tue 11/27/18	28,40	Dimitrios
▷ **Module Integration Session 2**	4 days	Wed 11/28/18	Mon 12/3/18	37	Ashvini,Charles,Dimitrios,Jabari
▷ **Prepare for final submission and presentation**	2 days	Tue 12/4/18	Wed 12/5/18	25	Ashvini,Charles,Dimitrios,Jabari

Timeline

Methodology :

Collect input from student.

Calculate & Schedule

Test / Quiz grades

Modify hours, difficulty accordingly.

Recommend better schedule.

Provide insights to students with graphs

Geo Fence Tracking: Notification , best location

Add course events - Quiz/Test to calendar
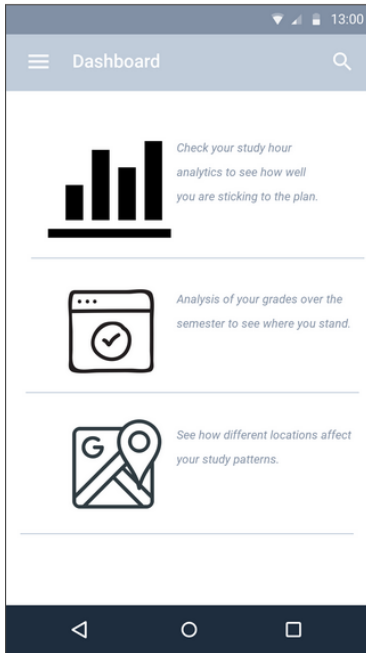
App Flowchart/Architecture

UI Mockups

Dashboard

Check your study hour analytics to see how well you are sticking to the plan.

Analysis of your grades over the semester to see where you stand.

See how different locations affect your study patterns.

Semester

Current Semester

CS528: Mobile and Ubiquitous Computing — 10 hr 18 min
5 hr 18 min
5hr

CS5084: Algorithms — 15 hr
10 hr
5 hr

MIS578: Project Management — 6 hr
4 hr
2 hr

View Other student's study hours

View Previous Semesters | Create new Semester

Home

Upcoming Events
Nov 1st : CS548 Project Proposal Due

Semester | Resources

Calender | Dashboard

Preferences

Preferences

Name:
Enter your name

Major:
Your major in college

Expected hours of study per week:
Average hours you plan to spend (it is okay to give a rough estimate)

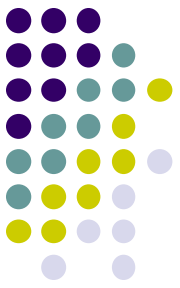Add suitable study locations:
Gordon Library
Campus Center
Zoo Lab
Home

Machine Learning(Possible feature)

- Data Set
  - former students learning information(grades, locations, schedules)
  - previous work
- Model Initialisation:
  - final grade prediction
  - weekly learning hours recommendation
  - schedule recommendation (seq2seq NN)
- Model update
  - every time new user grade(quiz/final) comes

Evaluation

- Survey
- Alpha version test
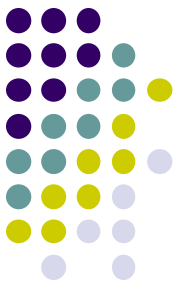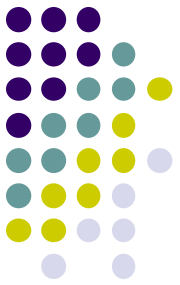- Beta version test
- Feedback collection
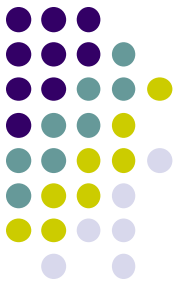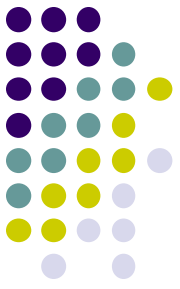
Difficulty points

- Every 5 android screens (4)
- Location sensing (4)
- SMS: Send/receive SMS (4)
- MPAndroid Charts (4)
- Activity Recognition (6)
- GeoFencing (6)
- Speech Recognition (6)

That will be adjusted as we start working on the project to match the 20 maximum points.

References

- *https://blog.cengage.com/wp-content/uploads/2015/04/cengage.learning.college.students.struggle.time_.management.jpg*
- *https://www.mystudylife.com/*
- *https://www.forestapp.cc/en/*
- *https://files.eric.ed.gov/fulltext/EJ1143649.pdf*
- *Ebele, U. F., & Olofu, P. A. (2017). Study habit and its impact on secondary school students academic performance in biology in the Federal Capital Territory, Abuja. Educational Research and Reviews, 12(10), 583-588. doi:10.5897/err2016.3117*
- *Nonis, S. A., & Hudson, G. I. (2010). Performance of College Students: Impact of Study Time and Study Habits. Journal of Education for Business, 85(4), 229-238. doi:10.1080/08832320903449550*

Thank you!