PROJECT PROPOSAL

- ## Basic Info
  - Project title: Student Statistics
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  - UID: u1140248
  - Link: https://github.com/SrijaAdusumilli/Student-Statistics.git

- ## Background and Motivation

  Providing students with their academic statistics may give them the knowledge where they are lagging behind but there is no efficient way implemented until now. This made me choose this project for helping out students for providing their statistics and getting them to know the fields in which they need to improve. Also, a visualization of this kind helps the faculty and parents know the academic performance information and also the basic information of the students.

- ## Project Objectives

  The primary objective for implementing this project is to provide students with the statistics in a more efficient and visualized way so that they can get a clear picture of their academics.

  visualization is an effective tool to deliver information. Using this visualization, I am trying to project how different circumstances such as how many times the student checks the new announcements, how many times the student visits a course content, how many times the student checks the new announcements, how many times the student participate on discussion groups, how many times the student raises his/her hand on classroom, the number of absence days for each student effect their academic performance.

- ## Data
  - Amrieh, E. A., Hamtini, T., & Aljarah, I. (2016). Mining Educational Data to Predict Student's academic Performance using Ensemble Methods. International Journal of Database Theory and Application, 9(8), 119-136.
  - Amrieh, E. A., Hamtini, T., & Aljarah, I. (2015, November). Preprocessing and analyzing educational data set using X-API for improving student's performance. In Applied Electrical Engineering and Computing Technologies (AEECT), 2015 IEEE Jordan Conference on (pp. 1-5). IEEE.
  - Link: https://www.kaggle.com/aljarah/xAPI-Edu-Data/data

- **Data Processing**
  I am not expecting any data clean up. I am planning to use the data provided as it is without any data processing.

- **Visualization Design**
  The overall design is presented in the form of a pie chart. But, in order to get a detailed picture of the information, we need to expand and show even the minute details of the attributes. So, the line charts and bar charts might help in clearly projecting the data.

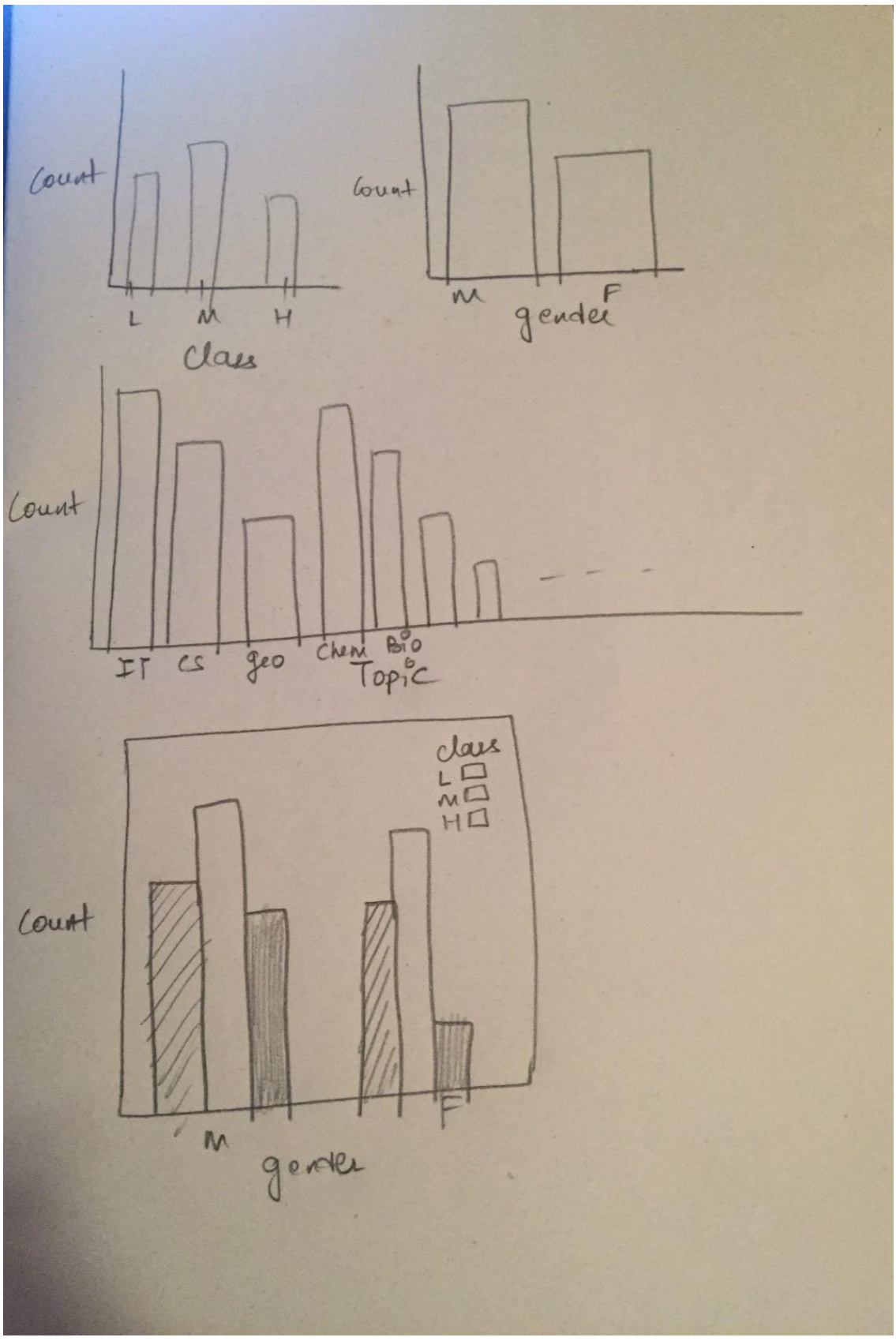
- **Must-Have Features**
  - The pie chart with concentric circles and each concentric circle represent a different attribute.
  - Different shades of colors(saturation) for each circle representing each attribute.
  - On a mouse click on these circles, a bar chart and line chart expands showing detailed info about the attributes.
  - By hovering on the circles, a tooltip get displayed showing the basic info.

- **Optional Features**
  - hue and saturation
  - Shadows
  - 3D effects
    Due to the presence of these features new information will not be added but we get a more effective visualization.

- **Project Schedule**
  By dividing the project to modules and assigning deadlines for each module might help me in completing the project in time.

Modules	Deadlines
Module1	11/07/2017
Module2	11/14/2017
Module3	11/21/2017
Module4	11/28/2017

Module1: pie charts
Module2: Bar charts
Module3: Line charts and integration of Data
Module4: debugging and testing


Count
L
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Class
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IT
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class
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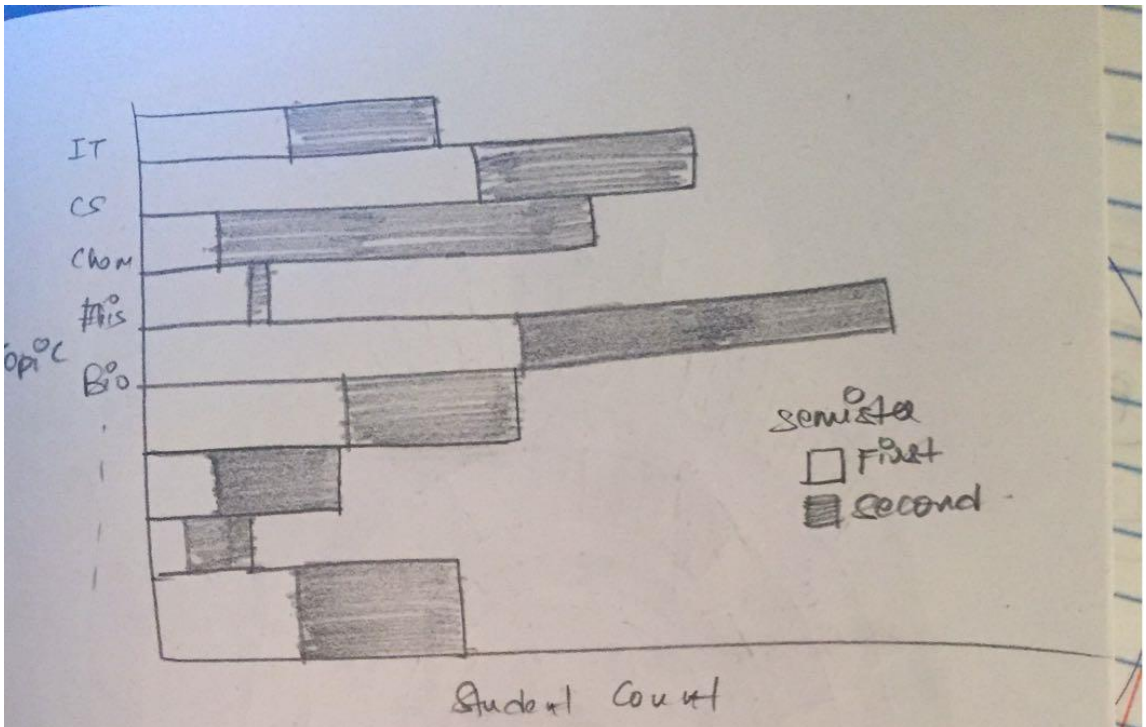
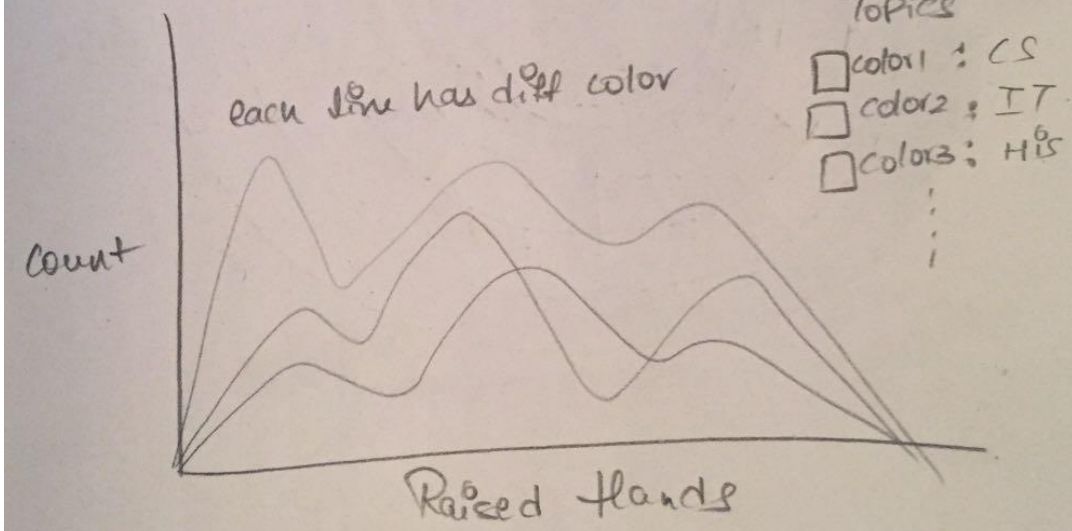
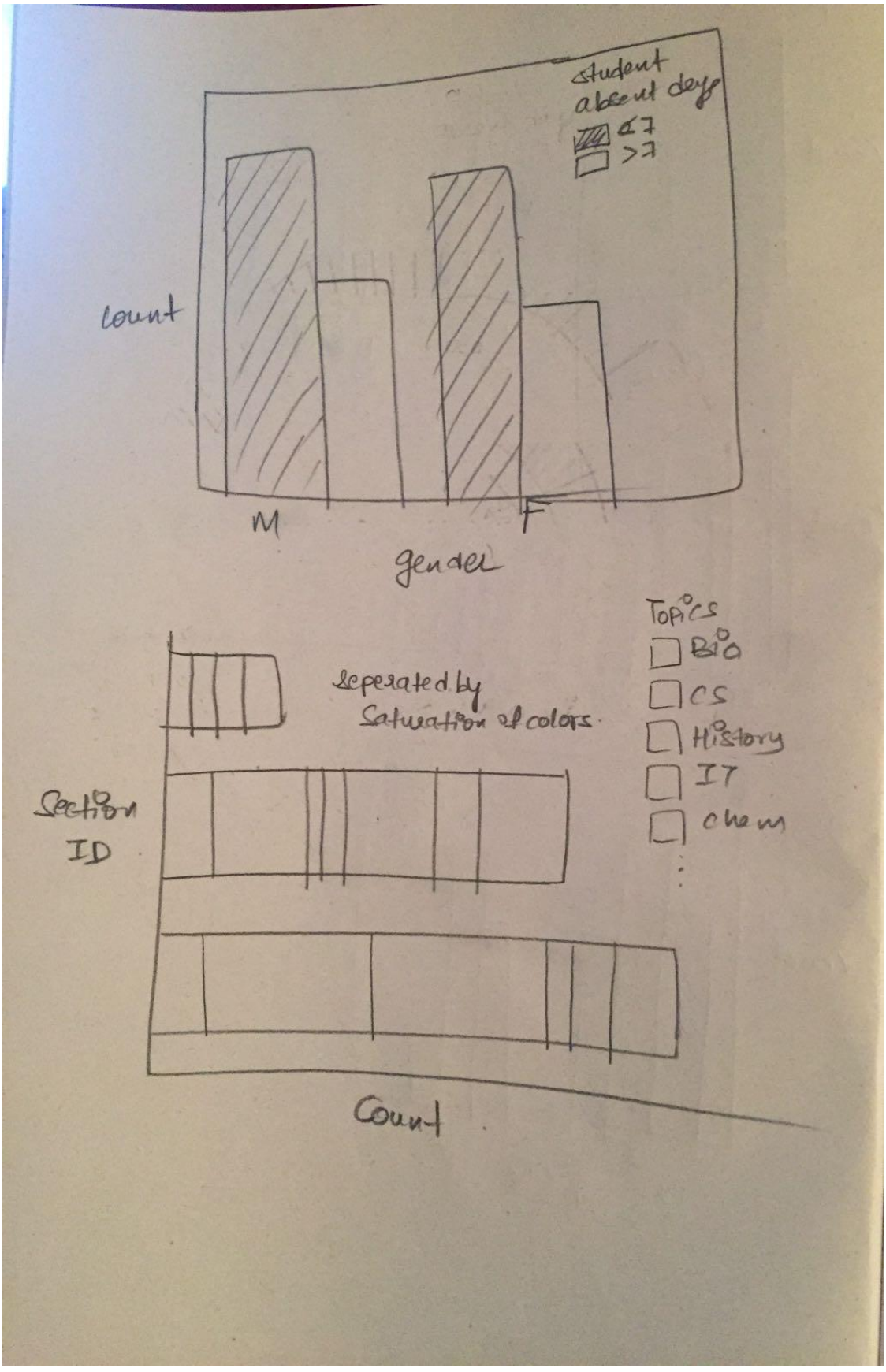

IT
CS
Chem
His
Bio
Topic
semester
First
second
Student Count


each line has diff color
Topics
color1 : CS
color2 : IT
color3 : His
Count
Raised Hands


student absent days
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count
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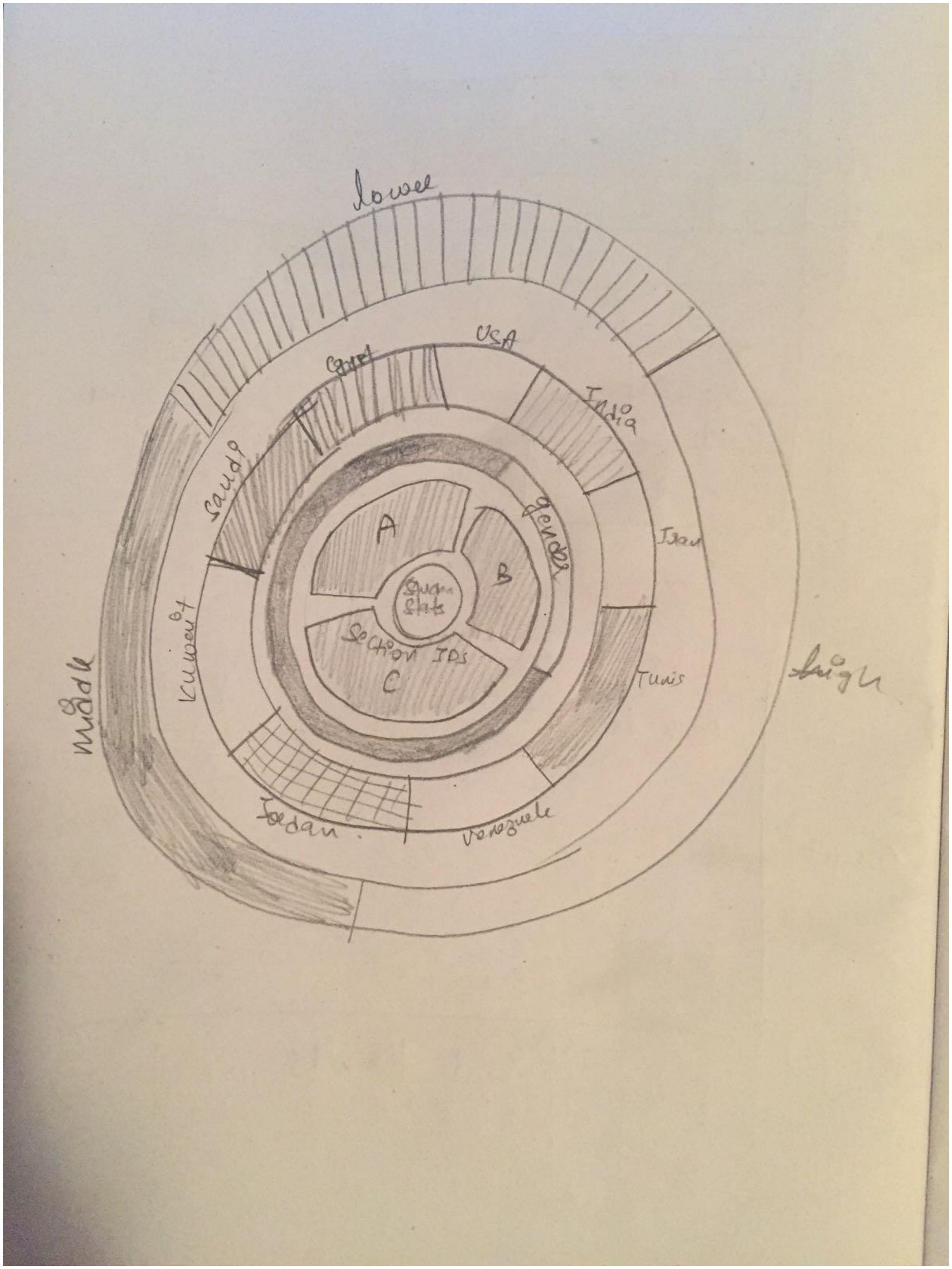
F
gender
Topics
Bio
CS
History
IT
chem
seperated by Saturation of colors
Section ID
Count

s


lower
USA
India
gender
Saudi
A
B
C
Section IDs
Kuwait
Tunis
Jordan
middle
high