

Application Engineering & Development – Summer 2021

Due Date : July 8th, 2021 at 11:59 PM

Delivery Format: A team of 3 students are required for this project (no exceptions)

The objective of this assignment is to instill in you the techniques for turning a design into a digital system for data collection, insight, as well as social impact. We want to use software engineering design and programming techniques to improve the quality of education university setting anywhere in the world and hold people accountable for improving the quality of life for people through education, **learning to learn**, and **feedback**.

Your task is to study ways to create a performance measurement 绩效测量 solution to enable universities to measure the quality of the education they deliver to their students. Quality here means keeping courses fresh and aligned with industry trends. The approach will be to look into how an educational system involving **faculty, courses, and employers** contribute to the professional growth of their **graduates over a 5-year period**. You must figure out ways to **track the jobs and promotions** graduates get over time and assign rankings accordingly. In addition, track the connection of **courses and their relevance** to graduates growth. Also, study the relationship between **GPA and industrial success** (In other words, do grades matter?) Also, discuss how to apply your digital ideas and solutions to k-to-12 educational systems in the developing countries.

One of your deliverables will be to design a dashboard that enables **college and university administrators** to compare the job performance of their students and academic units.

One important question is to define your own **ranking system** of educational institutions especially for the developing world.


Deliverables

1. Running java code showing the implementation of a complete system at the **department and college** levels.
2. Presentation outlining your solution and implementation.
3. **Sequence diagrams** 顺序的 系列图像 showing how to navigate the university object model to deliver **performance metrics** 性能指标 needed for performance and feedback.
4. An object model showing the changes to the **university model** to support the new capabilities.
5. This must include the additional methods and attributes required to deliver the results.
6. **Investigate how we create digital education systems assuming a university is an intermediary (broker) between students and employers. Their brand is about credibility. How the implementation code will change based on this assumption?** 就业率+平均工资
7. Your application must enable the creation and update functions for any of the attributes of concern.

Note

You must figure out how to generate a lot of data for a complete configuration of your university system (including teachers, students, courses, employers, etc.). This will enable you to analyze and summarize the data. You might want to use the faker package to generate realistic data.

任务分配：

任务	内容	负责人	时间
非UI部分的所有CLASS 功能 创建 填充和整理，并完成LUCIDCHART上的调整，有可能随着项目的开展而进行调整	新建部分CLASS 如 COLLEGE? UNIVERSITY?EMPLOYER?学生账号填充？毕业后发展？公司？COURSE RANKING? PROFESSOR RANKING? 确定 ranking 指标和范畴？和工业界的联系？ COLLEGE 和DEPARTMENT？ 注意 add delete 可能需要多维度同时增删 注意完整命名和备注	YQ	7.3
FAKER数据创建	生成的数据应该是信息学院的学生，可能20-50个左右？需要一些基础逻辑，不是全部随机，比如选了某个教授的某课的成功率比较高	YQ	7.3
UI部分所有设计（cardlayout, CRUD不同权限的分配，保持风格统一）	需要一张单独的LUCIDCHART做规划 不同账号通往不同的登录dashboard，入口包括university admin,college admin,(department?) student, employer 别忘了雇主！	MH	7.3
UI部分所有代码 注意完整命名和备注	选择ENUM管理ROLE 进行登录（参照LAB6）	MH	7.3
DEBUG(跑通所有代码，检查序号、列表、BACK键正确性)和 IMPROVEMENT(美化 封面 功能 图表)	 <p>ranking 图表？或者看到GPA? 然后点进去看到每一个课的评分 每一个教授的评分？</p>	JL	7.5
PRESENTATION（是否需要PPT?）	PPT 实现的功能，图标，主题拔高（课程 学生和雇主的联系->教育和就业） diagram 结构图	JL	7.5 时序图参考 https://zhuanlan.zhihu.com/p/159129710
GITHUB共享和修改	https://github.com/aeloyq/NEU_INFO5100_Assignment3	YQ	有时间可以了解一些git rebase和git merge~ 公司里一般流程是： 1. 从主分支checkout到一个自己的新分支 2. 开发特定需求的实现 3. rebase主分支上其他人的改动 4. 发起pull request由专人code review, 通过后会

			<p>并入主分支, 否则回到步骤2</p> <p>为了防止我们java和netbean版本不一致导致反复冲突, 我把nbproject文件夹给ignore了。你们可以先创建一个项目, 然后将git拉下来的文件全部覆盖进项目, 包括隐藏的.git目录, 之后就在项目目录下操作git即可。</p>
LUCIDCHART共享和修改	https://lucid.app/lucidchart/invitations/accept/inv_8fd0af3d-bb71-4418-84a2-4f7f763b964c?viewport_loc=-3252%2C-314%2C5485%2C2041%2C0_0	JL	6.29