# Group Project 2: ATM Software Python Project

Points: 100 points.

Submission via **Cougarview**

**This is team project(each group will consist of roughly 4-5 students); no collaboration among groups.** Groups shouldn’t share any project code with any other group. Collaborations among groups in any form will be treated as a serious violation of the University's academic integrity code.

**Team project solutions will be submitted in python code. All team project should be demonstated at the last class of this semester.**

**You may use any development platform or compiler, but your projects** **will be graded ONLY on Linux. If your project does not work in that** **environment, you will NOT get credit. Always test your programs on a Linux machine!**

**Learning Objectives:**

* Pracitce how rapidly invest and adopt new techniques in software development (Database design, Python website implementation with ***Django***).
* Practice agile development method (***Product backlog****,* ***Scrum****,* ***ScrumMaster***).
* Practice agile Project management: develop a project schedule and plan, and monitor progress, **docemunt** your progress.
* Pracitce software design and implementation skills (i.e., *Architectural design,Database design,Interface design, Component design*)
* Develop test cases (black-box testing) for system test
* Document project.

### **1. Project Overview**

ATM Software is an academic project developed in Python scripting language which resembles the existing ATM (Automatic Teller Machine) software. The main aim of the project is to demonstrate the practical implementation of Python programming language in banking sector. The software generated by the proposed project can be installed in Bank ATMs.

**2. ATM Software**

The major modules of the ATM project are: ***admin module*** and ***user module***. Admin refers to the bank that has installed the proposed ATM software project and the users are the costumers of bank with authenticated cards. **The admin module** has following sub menus:

1. **Add New ATM Card**: This menu is responsible for creating new ATM user account.The details to be filled in this form are **account number**, **pin**, **account name**, **data of issue**, **expiry date**, **address, balance** and two factor verification methods which are **phone number and card status**. (Note, since one account may have multiple cards bound to it, you may consider implement ATM card and Account as two separate class. The same in database schemes design.)
2. **View ATM Machine Status**: This module helps to view the details of ATM machine. Using this module, admin can view **ATM address**, **ATM Machine status**, **last refill date**, **next refill date**, **min balance enquiry** and **current balance** options.
3. **(Optional) Update ATM Card**: This module is responsible for re-validating the expired card. In order to update the card, admin should enter ATM card number. This module has further **six** sub modules as listed below:
4. **Block ATM card**: Sometimes the banks need to block some cards for various reasons such as when ATM card is lost or stolen. With this feature, any claimed ATM card can be blocked by entering card number and submit.
5. **Activate ATM card**: After the approval of card from bank officials, it is activated using this sub-module of project on bank ATM software.
6. **Reset PIN**: Sometimes the card user forgets the PIN and comes to bank office to recover it or the PIN needs to be changed. This menu facilitates to reset the PIN.
7. **Reset phone**: This sub-module is useful in updating the phone number of costumer.
8. **View history**: With the help of this menu, the admin can view the history of transaction of money.
9. **Update expiring date**: If the existing expiry date is to be modified, this sub-module is used by admin.

**As for the *user module***, please see the user stories. Four(4) required stories, three (3) optional stories.

**3. Project Report**

Write a project report that explains:

* Project management, develop a project schedule and plan, and monitor progress. (4 points)
* Version control, develop a version control strategy. (2 points)
* Define system requirements (4 points)
* Create design models using UML. (5 points)
* Implement the system. (20 points)
* Develop test cases for system test, and document the test results. (5 points)
* Present the project. (5 points)

**Important!**  Your report is worth 30 points. Your project report should provide sample input and output from your implemented program.

#### **4. Deliverables**

### **4.1 Final Submission**

Your final submission should include:

* Your project report.
* A copy of the complete source code.
* A **README** that will indicate how to use your program.

**Important!**  You must submit a single compressed file as a .tar.gz file, which includes both a project report and source code.

### **4.2 A Single Compressed File**

Please submit your tarred and compressed file named ATM.tar.gz through Cogarview. **No** e-mail submission is accepted.

### **4.3 What happens if you can’t complete the project?**

If you are unable to complete this project for any reason, please describe in your report the work that remains to be finished. It is important to present an honest assessment of any incomplete components.

**5. Project Assessment**

**5.1 Grading Criteria**

The approximate marks allocation will be:

1. Project Report:
   1. Tasks decomposed from stoire. 10%
   2. Design document(project structure diagram) 10%
   3. SW development report(Progress and scrum meeting report) 5%
   4. Team members’s duty (Scrum master, tester, developer and etc.) 5%
2. Implementation (i.e., Source Code): 50%
3. Develop test cases for system test, and document the test results. 10%
4. README document. 10%

**Total (Items 1-4): 100 points**

**The extra parts is worth 50 points. If you team implement this part, make sure you report it in your submisson!**

**5.2 Late Submission Penalty**

**25%** percent penalty per day for late submission. For example, an assignment submitted after the deadline but up to 1 day (24 hours) late can achieve a maximum of 75% of points allocated for the assignment. An assignment submitted after the deadline but up to 2 days (48 hours) late can achieve a maximum of 50% of points allocated for the assignment.

**Important!**  Project assignments submitted more than 3 days (i.e., 72 hours) after the deadline will not be graded. In this case, the grade of your project 3 will be 0.