**Assignment Topic:**

As a software development professional, you will run into all kind of projects and situations within those projects. This assignment is designed to present you with a fictitious situation and ask you to recommend an approach to software development for that situation.

Here is the situation:

Georgia school of Arts has been the choice for higher education in the state. The college has been serving the state for last 50 years. College has mostly operated using manual processes and state has been expecting the college to match the other colleges in the country in terms of automation. College leadership also sees great benefit by automation as it hopes to keep tuition in check and provide better service to student and faculty.

The college wants to automate most of its processes in next 5 years. College do not have budget to shorten the timeframe and wants to do this automation mostly in-house with hired consultants when needed.

The IT department has lot to learn in terms technology to build this system. Also, college leadership has some idea on what to build but not sure what exactly are college needs in terms of automation. College has formed a group from various departments of college that will help define and drive the development. This group will work closely with IT department on this effort.

College wants to reap the benefit of automation as it is being built and use feedback from system users to guide future automation efforts.

The automation will start with processes that impact the students for e.g. admissions, class registration, grading, learning management system etc. Some of the key things identified for this software are the privacy and security concerns. College wants to make sure that systems can't be hacked and only the right people have access to the info.

To start with, the team working on this project consists of 5 developers, 3 QA and a Team Lead. Organization had signed a contract with a local company to provided additional resources when needed.

What software development methodology would you suggest for this situation and why?

* Step 1: Start with analyzing the scenario and**identifying characteristics** of this situation and **specify logic** behind the selection of characteristics. Example: You may identify "User Needs Unknown" as a characteristic based on statement x, y and z in the scenario.
* Step 2: Map the characteristics to **selection of model** and **provide your logic**to make that conclusion. For e.g. you may say that since scenario has x and y characteristic, model A and B would be potential candidate. Additionally, since scenario has characteristic z, model A would be best option.

**My Assignment View**

To begin as the requirements from the client are only partially known from outset. Certain functions are known and where they wish to start, class registration, grading, learning etc. They want to reduce the manual processes that exist and use automation where possible with a time frame of the next 5 years due to budget and resource. Security and privacy is a top feature for the college so to avoid potential hacks and protect students information.

Using the Kanban framework would be my approach as the principles and properties can be set in advance, the backlog can be prioritized by the team lead and work with the QA’s and developers in order to develop the requirements, and design to present back to the college before implementation and verification is done. Being flexible is the key so concepts should be taken from the SCRUM methodology, using SCRUM daily meetings will give focus to what has been done so far and what will be done daily, but perhaps without the need to do it on a 1-4 schedule, although it can be adapted should it need be for example when the security features need to be developed and rolled out.

The college has some ideas on what they need and want from the project, due to time and budget constraints the time frame that they are looking for implementation is known so a plan and body of work can be built in advance. Being Agile in terms of the model selection will allow the team to be flexible, tweak plans, design whilst working alongside the 5 developers, QA’s and where needed the local company who are providing the additional resources when needed.

Software coupling will need to be tight in order to ensure that the connection between the components remains strong and the cohesion is also maintained should any inheritance be done from the existing architecture

Additional resources should be deployed and utilized when it comes to testing, they are able to test the various components in order to feedback, find bugs, stress test for potential security flaws and hackable opportunities. This will provide the verification and test the operation / maintenance development and allow changes to be made if need be.

Being adaptive and Iterative in this scenario is going to be key, as there is an idea but not fully fleshed out, initial versions may have to be built, tested, feedback gathered and the version updated, again this is where the additional resource can be utilized.