Digital Storage solution for the university

* Project Description:
  + Backend service and data storage solution for university
  + Provides an API for development of relevant applications
* Data:
  + Can store all types of data (mostly text documents)
  + Can store student data, campus data, buildings data (location, rooms, ...), etc.
  + Add/Delete/Modify data
  + Be able to export data as csv and tabular report formats, etc.
  + Able to bulk insert, update, and export in any format
* Accessibility:
  + Online access (web)
  + Mobile, tablet, any PC device
  + iOS App only
* Different Roles:
  + Student (only access to their data such as profile, courses, course history, grades, etc.)
  + Faculty (professors must be able to see their students info, their classes, enter grades, etc.)
  + Department chiefs (responsible of adding classes, time, professor, building, etc.)
  + Administrator (system administrator) (must have a monitoring system for CPU, ...)
* Essentials:
  + Must be able to import 500,000,000 records from paper
  + Must be able to query data (able to sort)
  + Must perform in a reasonable manner (time-performance wise)
  + Must be secure against brute force
  + Must be GUI intuitive
  + Must have a log system/audit trail system (never removed, 10,000 logs kept)
  + Must include building data feature
  + Must be able to roll-back (undo some actions)
  + Must be expandable, can add 100,000,000 records every year (exponentially)
  + Must have key performance indicators
  + Must have system notification during maintenance
  + Should be automatically backed up regularly.
  + Important events must be shown to admins as pop-ups
  + Student storage has a lifespan of 5 years
  + Session should expire
  + There will be only 3 tries for logging in
  + Self-service password restore
  + It should be some sort of API (software as service, be able to use this in other software) (easy and intuitive and achievable/logical)
  + There should be a way of communication between faculty and students (announcements, email messages, ims, etc.). It should have a log of the messages.
* Optional:
  + It’s ok to use 3rd party software
* Notes:
  + Admins will check everyday if there have been errors at night (systems fails as login errors)
  + Estimated average users per day: 45,000
  + Requires to store different types of data, so a variable number of columns is needed.
  + Everything is prior on paper, should be able to port all of it to digital data