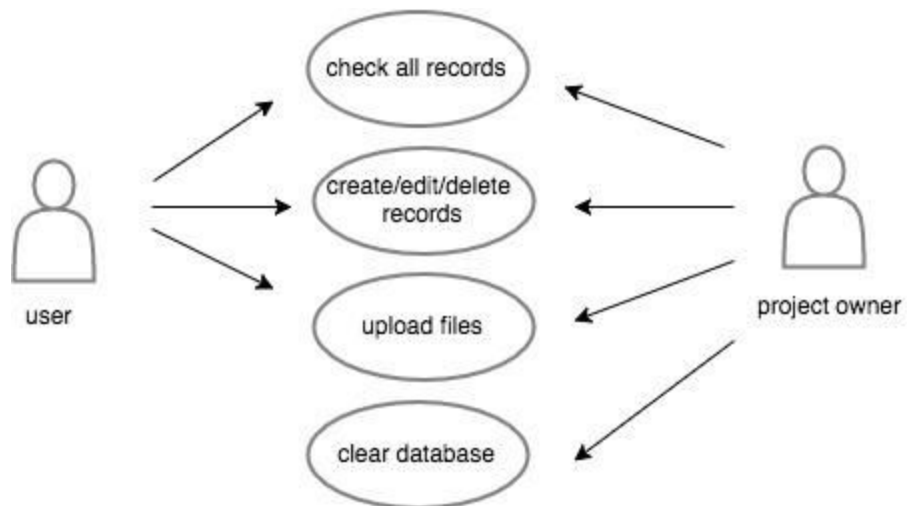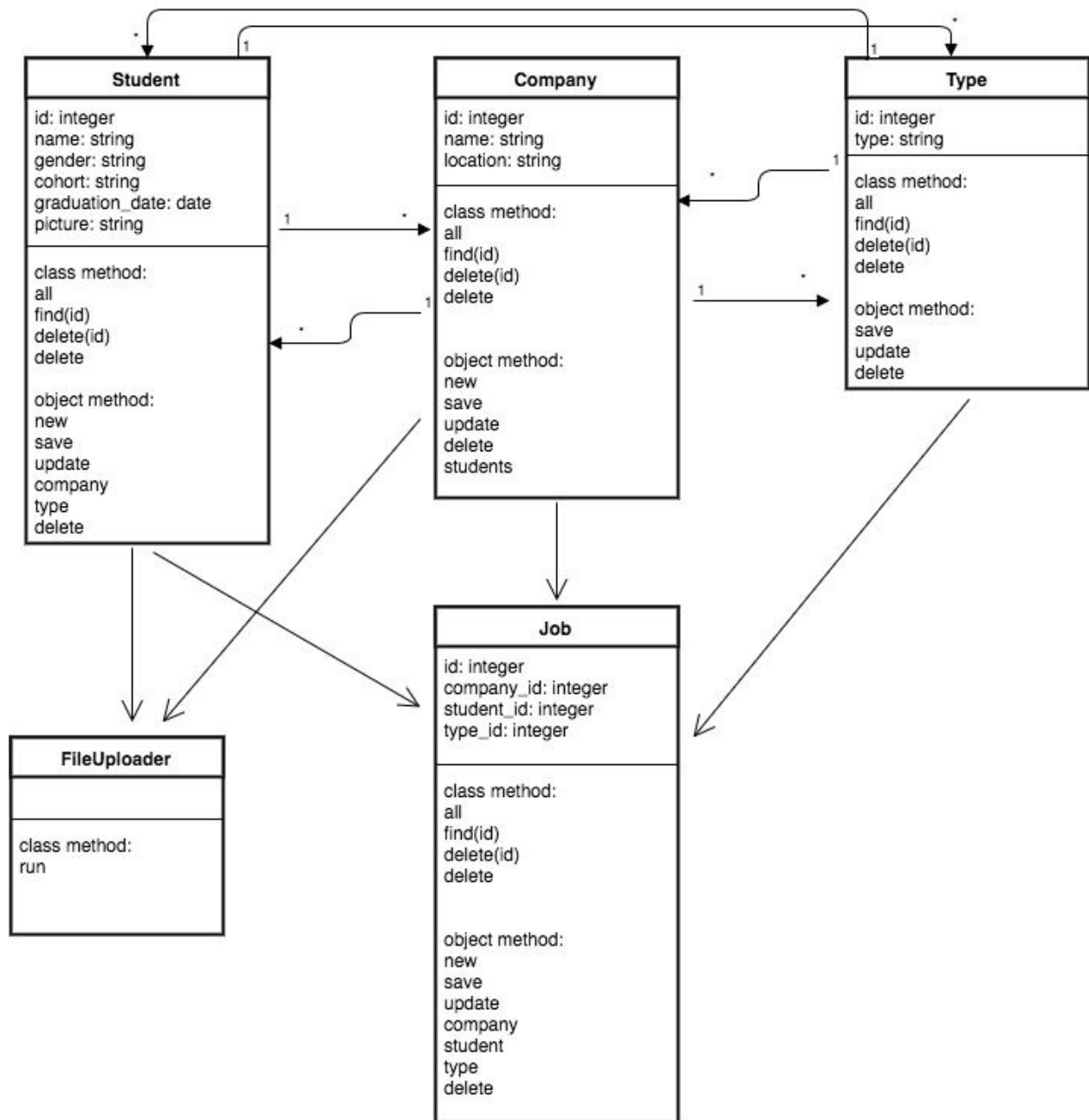**Analysis and Design Unit**
SQA PDA: Software Development
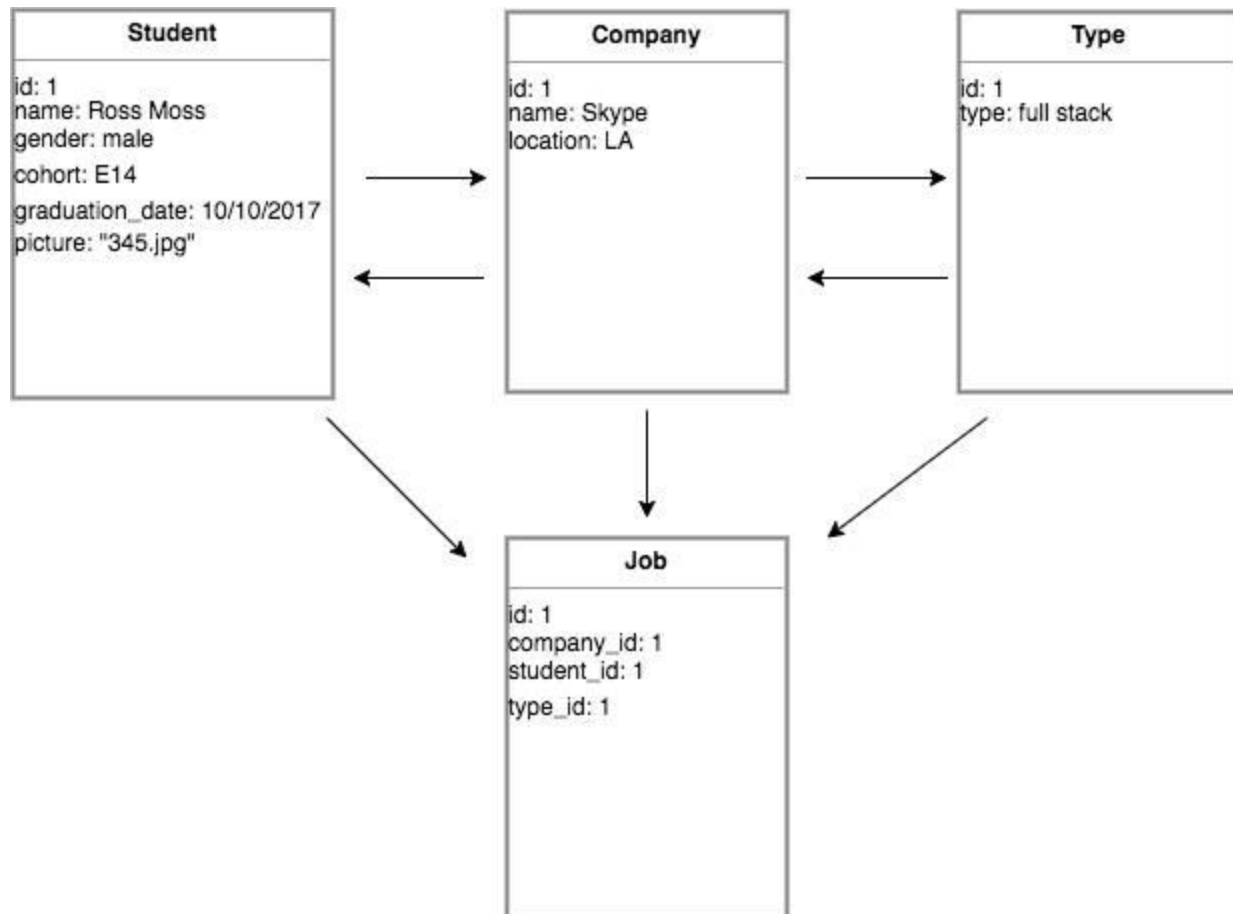**Yan Ren**

AD1 - Use Case Diagram
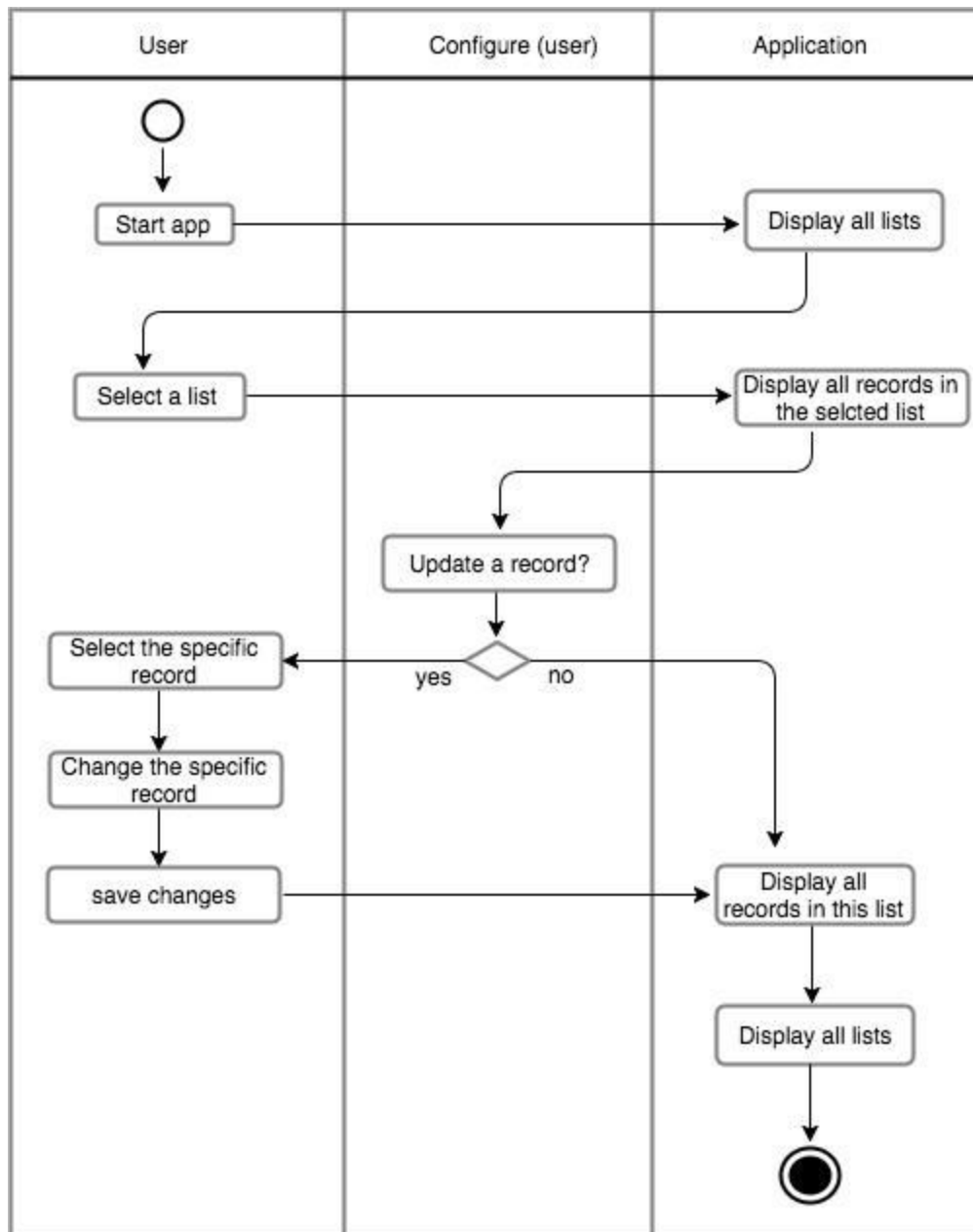
AD2 - Class Diagram

Student

id: integer
name: string
gender: string
cohort: string
graduation_date: date
picture: string

class method:
all
find(id)
delete(id)
delete

object method:
new
save
update
company
type
delete

Company

id: integer
name: string
location: string

class method:
all
find(id)
delete(id)
delete

object method:
new
save
update
delete
students

Type

id: integer
type: string

class method:
all
find(id)
delete(id)
delete

object method:
save
update
delete

FileUploader

class method:
run

Job

id: integer
company_id: integer
student_id: integer
type_id: integer

class method:
all
find(id)
delete(id)
delete

object method:
new
save
update
company
student
type
delete

AD3 - Object Diagram

Student

id: 1
name: Ross Moss
gender: male

cohort: E14

graduation_date: 10/10/2017
picture: "345.jpg"

Company

id: 1
name: Skype
location: LA

Type

id: 1
type: full stack

Job

id: 1
company_id: 1
student_id: 1

type_id: 1

AD4 - Activity Diagram

AD5 - Inheritance diagram

String Instrument

int numOfStrings

String brand

int price

Bass

int numOfStrings

String brand

int price

----

int reservedPrice

Guitar

int numOfStrings

String brand

int price

String previousOwner

Violin

int numOfString

String brand

int price
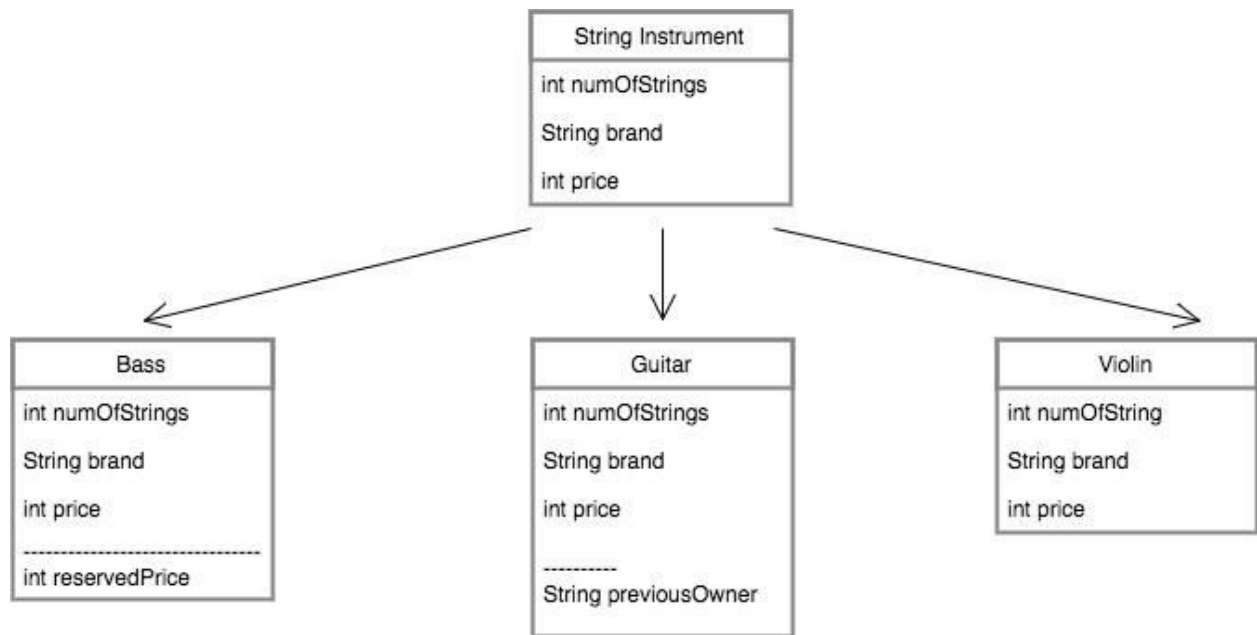
AD6 - Implementation Constraints Plan

Topic	Possible Effect of Constraint on Product 1. Of the product 2. On the Product 3. Why is it a problem	Solution
Hardware & Software Platforms	1, 3D effect not available on all devices; 2, limited type of interactions (eg. android phone only)	2D as well as 3D effect available at the same time; Responsive design;
Performance Requirements	1, styles of the website slowing down users devices 2, slower server 3, not enough bandwidth	Use reader mode to simplify the page; Better server Faster internet Localise servers
Usability	1, Some colors are not recognisable for color blind users; 2, deaf users can not hear the audios.	Make color friendly for colorblind users and test with apps like no-coffee which is designed for this purpose; Make subtitles available where possible to help deaf people enjoy the audios
Budgets	1, constant changes in team structure consumes too much resources and limits the cost for other implementation 2, investors' fund not arrived on time	Steady the team building process; Make sure the team culture is healthy and encourage people to stay; Plan funding process before budget is set and have several investors leads lined up for fund;
Time limitations	1, limited time for finishing the MVP for presentation 2, key functionality cannot be finished and delivered on time	Using prototype software to map out the ideas; Keep the MVP's functions as bare minimum; Pull in more resources if possible; Keep communicating with clients and users ahead of the possible delay