California State University, Northridge

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Computer Science 490
Senior Design Project 1

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Proposal Idea

— Automation Class Schedule Application for CSUN Students

Proposal Objective

— Relief some stress by automation next semesters schedule

– Increase chances of graduating on time

– Stop watching time searching for class, let AutoScheduler help

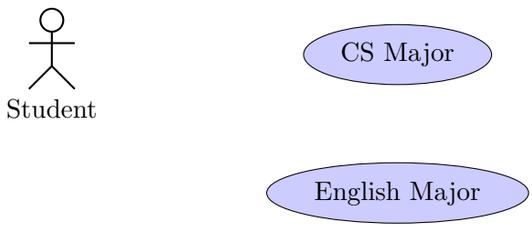
Proposal Solution

— Pro, third party webtools such as Selenium

– Con, secruity isses will arise with canvas

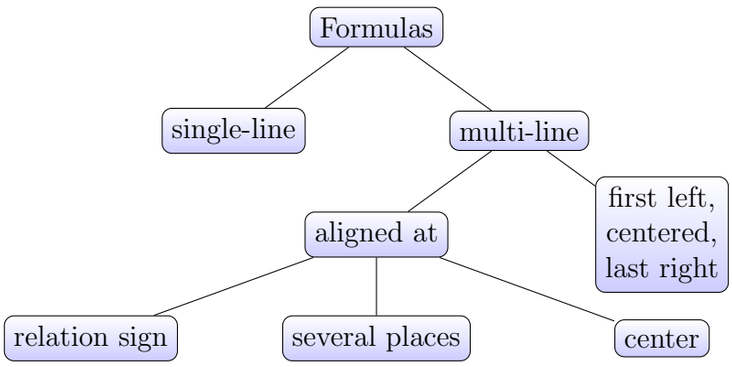
System Architecture:

`Top Level`



System Architecture:

`Low Level`



Code

```java
public class Cons implements ImmutableList {
  // ---BEGIN INSTANCE VARIABLES---
  public final int head;
  public final ImmutableList tail;
  // ---END INSTANCE VARIABLES---

  public Cons(final int head, final ImmutableList tail) {
    this.head = head;
    this.tail = tail;
  } // Non-Empty List (Head)

  public boolean equals(final Object other) {
    if (other instanceof Cons) {
      final Cons otherCons = (Cons) other;
      return head == otherCons.head && tail.equals(otherCons.tail
   );
    } else {
      return false;
    }
  } // equals

  public String toString() {
    return "Cons(" + head + ", " + tail.toString() + ")";
  } // toString

  public int hashCode() {
    return sum();
  } // hashCode

  public int sum() {
    return this.head + this.tail.sum();
  } // sum

  public int length() {
    return 1 + this.tail.length();
  } // length

  public boolean contains(final int value) {
    return this.tail.contains(value) || this.tail.hashCode() ==
   value || this.head == value;
  } // contains

  public ImmutableList append(final ImmutableList other) {
    return new Cons(this.head, this.tail.append(other));
  } // append
}
// Cons
```

Listing 1: Cons.java sample code