**Character draw**

KinderCare recently observed that the software , which can help lower school children remember and create the different shapes of characters, ranging from A to Z (All in capital) are either expensive or do not satisfy their requirements. For that reason, they have decided to come up with an application which works as follows

There are two interfaces, including the **web interface** and **command-line** interface. The web interface is used by the teacher to give assignments to the pupils. The system also provides an interface for the teacher to register the pupils (the details registered include first name, last name, phone number and user code). Once a pupil is registered, he or she can attempt all assignments that have been submitted by the teacher as long as they are still within the required time. The teacher at a given time can deactivate a pupil. A deactivated pupil cannot attempt assignments even if they are registered. To be activated, the pupil should send a request to the teacher through the command line interface. A teacher is only allowed to add only up to 8 characters to the assignment list for the pupils to attempt. The teacher also specifies the start and end time of the assignment. Submitted assignments are automatically awarded scores and these can be seen against the pupil and the assignment when the teacher logs in. The teacher attaches a comment to the score and this is seen when the student next logs in. The teacher should be able to view the necessary reports that can help him or her in decision-making.

The pupils use a command line interface to attempt the assignment. They only see those assignments, which have not expired and which are open for attempting. In case the assignment is open for attempting, the pupil is informed of how much time is left to close the assignment. The pupils is informed of how many characters they have in their assignment. These characters are presented one by one, enabling the pupil to attempt and submit. For each of the characters attempted, the time taken to attempt that character is recorded. After attempting the last character, the total amount of time taken to attempt the assignment is provided for the pupil to see. An acknowledgement of submitting the assignment is also provided for the pupil to see and all characters attempted are drawn on the screen (in form of stars as in figure 1). The method of providing a solution to the character is as below. The system generates characters like in figure below, by placing (\*) in the specific locations of the matrix (4X7). The system keeps a record of the right locations of the stars (\*) and bases on this to award a score. The pupil attempts the assignment by entering either a 0 or a 1. 0 means the star should not be printed in the cell while a 1 means that the start will be printed in the cell such as figure 1

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | \* | \* |
|  | \* |  |  |
| \* |  |  |  |
| \* |  |  |  |
| \* |  |  |  |
|  | \* |  |  |
|  |  | \* | \* |

Figure 1. Letter C as printed on the screen

When the pupil logs in, they can enter the following commands

1. **Viewall**  (Displays assignment number and date , showing if attempted or not
2. **Checkstatus** - (Displays the status report of the pupil summarizing all assignments (how many attempted, average score, percentage missed, percentage attempted etc.))
3. ***Viewassignment assignmentid – to see details of a specified assignment***
4. ***Checkdates datefrom dateto (shows if there is an assignment within a specified date range)***
5. ***RequestActivation – used for pupil to request teacher to activate him or her***

**Instructions**

1. ***There will be two classes, on 20th and 21st Jan 2022, 2 hours each from 2-4pm. These will introduce you to how recess will be conducted, an introduction to the respective technologies and clarifying on what may not be clear in the question***
2. ***Groups should not exceed 4 people. The excess will be deleted***
3. ***Kindly keep time and participate since non-active members will be eliminated by the supervisor or coordinator***
4. ***Each group is assigned a supervisor in the excel document where you registered. Ensure to send your supervisor an update of your work. There will also be an physical meeting every week for groups to meet supervisors – this will be communicated in due course via your emails***
5. ***Link to find your groups and supervisors -=*** [***https://docs.google.com/spreadsheets/d/1wPGwHxaDxo9oVfAY0W1kKcs5p7lTS7ti/edit?usp=sharing&ouid=112023987947581394086&rtpof=true&sd=true***](https://docs.google.com/spreadsheets/d/1wPGwHxaDxo9oVfAY0W1kKcs5p7lTS7ti/edit?usp=sharing&ouid=112023987947581394086&rtpof=true&sd=true)
6. ***Enroll on muele under the course bse 1301***
7. ***To write a design document, use a template provided***
8. ***Create a git repository and let each member check out updates before they commit. This link will be shared with the supervisors to see who pushes work to the repository and finally to the examiner to see individual participation.***
9. ***You are free to always send an email to the coordinator in case of any problem or when seeking clarity***

**What you should do /**

1. Write a design document for the above system (**Coursework 1/20**)
2. Implement the system (Command line interface using C programming and web interface using PHP) – (**Exam /60**), to be awarded to individuals after presenting the work
3. Supervision Mark– (Each group is assigned a supervisor, to whom they must show and present their progress every week (**supervisor mark/20**))- **If the supervisor does not meet you throughout the course, you are considered to have dropped out**

**Timelines**

1. **Design Document – to be submitted on muele (23rd Jan 2022 )**
2. **System and presentation – To be presented to the specified lecturer (10th and 11th Feb 2022 )**

**Contacts**

1. **Mary Nsabagwa –** [**mnsabagwa@cit.ac.ug**](mailto:mnsabagwa@cit.ac.ug) **– Course Coordinator and supervisor**
2. **Brian Muchake -** [**bmuchake@gmail.com**](mailto:bmuchake@gmail.com) **– Supervisor**