UCOP PHP Developer :: Test Problem

Problem

All UC campuses have their own job boards, with no central place to search across the entire UC system.

Parameters

1. 10 campuses have job info that needs to get to the new centralized LAMP search app.
2. The new app lives at the UCOP site, on our application server, using a MySQL database.
3. Each day, each campus deposits a new, updated jobs data file to a central FTP server by 6am.
4. Each day, campus data is retrieved from the central FTP server by the application server hosting the search app, is stored in the UCOP database, and is searchable with the app by 7am.
5. Data received from the campuses needs to be validated according to attached spec.
6. Reports need to be generated about receipt of campus files and validation of their data.
7. Listings in the app's search results need working links to the full listing at the campus job site.

Constraints

1. Files must be in CSV format and may only be moved from server to server via FTP.
2. The data files have no header row. Columns are identified by position only, 11 columns, 0-10.
3. The previous day's job data does NOT get updated. The import process drops previous job data if the new campus data file has at least one valid record, then stores the data from the new file.
4. If a new daily campus file is not received, the previous day's data for that campus is retained.
5. The search form for the app is attached. These are the only search parameters that the user can enter.

Deliverables

Be concise and informative. Include issues and questions that you anticipate will need to be resolved. Pseudocode should be more descriptive in critical areas, and may skip or generalize non-critical areas.

1. Describe and pseudocode an automated daily file retrieval from the central FTP server. (max 1 page)
2. Describe and pseudocode a data import and validation process. Clearly step through the critical areas. Less-critical areas do not need a lot of detail. (max 1 page)
3. Mock up key parts of text reports on file retrieval and import for non-technical consumers. (max 2 pages)
4. Describe and pseudocode the handling of search parameters from the search form to convert them into a SQL query for the case where a user submits values for all search fields. Show a search query. Full database tables do not need to be described as long as column and table names are recognizable in the query. (max 1 page)