**Project: ACDS Calibrations Data App (CLOVER)**

**Aim:** To create and design an easy to use software application, with a database, to manage the information required for calculating factors in ACDS audits.

**Context:** The ACDS conducts dosimetry audits at radiotherapy clinics across Australia and New Zealand. The equipment used on these audits have specific factors that are used in the dose calculations. These are updated and renewed on a 2-year cycle and include several types of machinery specifics. Currently, this data is kept in an Excel Spreadsheet and the ACDS want to have a more streamlined system for this information.

We would like the spreadsheet to be replaced with one application – preferably with some sort of GUI so that we can use it easily. Updating the data and information (i.e. each new version of the data set) needs to be easy to do: designing an interface that can update specific data within the database, but still archive previous values is necessary.

**Requirements:**

1. Format: What structure are we going to store the data in?

* Some data will be stored in tables which rarely require updates
* Some data will be linked to unique pieces of equipment

How will the data be extracted?

* We may require data to be exported in CSV or Excel format
* We may like to have other ACDS apps run a query of the database with minimal user input

1. Where will data be stored? Should the database sit on a local networked drive which is easily accessed and has inbuilt security, or should this be stored on cloud drives? How does this impact performance of the app?
2. ACDS staff should also be able to log in to the app remotely (possibly whilst on audit) and ideally have other apps access this data directly.
3. Version Control: A potential challenge with the development of this application and database is with version control. The ACDS need to be able to access previous versions of the calibration data – based on the calendar date. With the current system (Excel Spreadsheet), the data is updated every 6 months and a new version of the spreadsheet is created. Maybe a drop down menu on the home screen with options to choose previous versions of the spreadsheet available would be best to ensure it is clear which version data is being accessed?
4. The data stored in the database is not confidential to people within ACDS. The app will not require passwords to access however the data should not be easily changed, so permissions for approval of new versions should be built in

* Would be good to have the next version available for admin to update but not available for data to be exported until approval process is complete.

1. Some data within the app may have expiry dates. We need alerts for calibrations which are soon to expire and maybe even a lock on data export for calibrations which have expired.
2. It is very important that this looks professional and is easy to use.

We will be providing you with all of our previous data so that you can build the database and have all of our current data working within the program. These will be in the form of Excel Spreadsheets.

We would appreciate it if you could figure out how to load all of the information from the Excel spreadsheets into the program/database. We are currently organizing all of the spreadsheets for you so you can hopefully batch-process this.

ACDS is a Microsoft based company – we would prefer to use MS based systems however; we are open to using other software systems

With regards on the programming and what to use – we have said that we prefer this to be written in Python, however, we understand that there are limitations with developing a web portal with Python. Our staff are familiar with Python and MatLab and you need to consider the skills and abilities of our staff when developing this project. When the project is completed, our staff will need to be able to further develop and expand on this program, since we will not have you available once you finish the course. We are happy to discuss options and directions with you and our staff are capable of learning new things!

**Submitting the information:**

Completion of this project will be when we can launch this application