Test approach including levels/phases and types planned for the test campaign

Our test approach would include frequent meetings to assess the progress. It would also be used to discuss any issues that need to be fixed at an earlier stage. Our test approach involves a lot of interaction between the test team leader, development team, and project manager. Therefore, separate meetings would be required for these allocated roles.

The three testing levels/phases we will be incorporating into our project will be:

- Unit testing
- System/Integration testing
- Acceptance testing

Our first level is unit testing and is assigned to the developer. It will be approved by the leader of the development team. Before accepting this type of test to be done by the test person, certain information must be provided. There must be proof of unit testing from the programmer to the team leader. Some examples may be test case lists, sample outputs, data printouts, and defect information. Any defects found must be recorded. They must then be sorted into modules and severity levels. The origin needs to be identified (whether it is in the requirement, design, or code functionality). For critical and major defects, a log will be recorded indicating time taken for defect resolution.

After fixing any critical defects, we move our project towards system/integration testing. This is done by the test manager and the development team leader. If required, there may be assistance from the individual developers. This part involves testing the interactions between different systems. It focuses on evaluating whether the system is compliant with required specifications. In this stage, we are allowing ourselves up to two major defects, provided they do not hold back testing. This means there is room for us to work around the error.

Once these tests have been done, we will perform acceptance testing. This part involves our software's end users. They will receive help from the test manager and development team leader. Through user interaction with the system, we can determine whether the software satisfies the acceptance criteria. At the end of this phase, we need to correct and verify any identified critical and major defects.

During all test phases, the test team will be collecting the following information and submit to the test manager and the project team at meetings.

- Defect severity and its origin.
- Investigation time spent on Critical and Major defects.
- Number of times test team receive a ‘ready-to-test’ program.
- Any defects that could have been caught at an earlier stage.

Configuration Management/Change Control:

There will be two environments running in parallel: development and production.
All testing will be done on the Development environment. This will ensure that programs under development and those in full test will have the same version controls and tracking of changes.
All Unit and initial system testing will be performed on the Development system. Once the system has reached a reasonable level of stability, no critical or major defects outstanding, initial pilot testing will be done on the Production system.
All changes, enhancements and other modification requests to the system will be handled through the published change control procedures. Any modifications to the standard procedures are identified in the project plan change control section.

We have assumed that with the budget and time restraints, it is unrealistic to employ an independent test person. Therefore, most testing will be allocated to the test manager alongside the development team.