**1. INTRODUCTION**

**1.1 Business and Domain Description**

The client seeks a system that, when provided a *git* code repository, identifies files within the repository that have a high likelihood of containing bugs. Existing systems provide similar results using various static metrics (i.e. lines of code, cyclomatic complexity, etc.). The system to be developed will instead employ dynamic metrics that take into consideration the number of repository commits for a given file and the relative frequency of the commits.

**1.2 Purpose**

The system will be utilized by code developers and project managers to reasonably identify the files within their code-base that are in need of closer scrutiny by experienced developers. Using the system can also provide a better understanding of a particular repository to new developers. By identifying and flagging frequently modified code, new developers can see more immediately where their efforts may be most needed as files that have remained static for a considerable amount of time are likely to be either bug-free or insignificant.

**1.3 Concept of Proposed System / Scope**

The “Hotspotter” system will predict the locations of bugs in a given code repository by identifying files that are being frequently modified in recent time. These “hotspots” will be given a score of the likelihood that they contain bugs.

**3. SPECIFIC REQUIREMENTS**

**3.4 Performance Requirements**

The system will provide its results within a reasonable amount of time that may scale with the size of the repository provided. An indefinite amount of users will be able to view the saved data simultaneously.

**3.5 Logical Database Requirements**

Not applicable.

**3.6 Design Constraints**

No design constraints have been issued by the client.