**3.3 Performance Requirements**

The following requirements are based on estimates and are subject to change.

**3.3.1 Static numerical requirements**

* The system should support access by professors, TA’s, and students alike.
* The system should function properly on mobile devices, laptops, and desktop computers.

**3.3.2 Dynamic numerical requirements**

* The system must properly handle 10,000 simultaneous calls to bookmark related functions.
* An instructor’s bookmark edit should be processed and update student bookmarks within 10 seconds.
* Student bookmark edits should be processed within 3 seconds.
* Any jumping to bookmarks should be processed within 1 second.

**3.4 Logical database requirements**

All bookmark data must be stored on the server side. However, student bookmarks must be account specific while TA and professor bookmarks must update all other users that are within their class assignment.

**3.5 Design constraints**

When designing the bookmarking software, there must not be any noticeable effects on the other i-Campus functions.

**3.6 Standards compliance**

The notation, coding conventions, and style must follow the same methods of the other i-Campus software. The software should be written using Ruby.

**3.7 Software system characteristics**

This section details some of the non-functional requirements of the system.

**3.7.1 Product requirements**

This sub section details the runtime behavior of the system.

**3.7.1.1 Usability requirements**

It is of key importance to us that one is able to add, edit, delete, and jump to video bookmarks on the same window that they watch the video. This ease of use and accessibility is one of the most important requirements of our system.

**3.7.1.2 Performance requirements**

When an instructor edits a bookmark, the video and bookmarks of all people in the class will update within 3 seconds of addition/deletion. When a student edits a bookmark, their personal bookmarks will be updated within 1 second.

**3.7.1.3 Usability requirements**

The program should work without many issues or errors. There should be less than 5 errors out of every 100 calls. Thus, the probability of failure at any time should not exceed 5%.

**3.7.1.4 Security requirements**

In order for one to make or delete bookmarks, they must be logged into i-Campus first. Instructors will have the ability to add and delete class wide bookmarks, but students should not have this ability. Any actions related to bookmarking should not transfer any user information.

**3.7.2 Organizational requirements**

These requirements stem from policies and procedures of the customer and related organizations.

**3.7.2.1 Environmental requirements**

For students, the bookmark information should be stored in the same manner as other student specific information such as classes a student is in, their assignments, and personal information. For instructors, the bookmark information should be stored and accessible in a similar way to the videos themselves.

**3.7.2.2 Operational requirements**

Users must sign in to their i-Campus account before being able to access bookmark functions. Once they are logged in, they must go to the tab where the lecture videos are in order to make any bookmark edits.