Table of Contents

[1 *Non Functional Requirements* 3](#_Toc400061999)

[1.1 Look And Feel Requirements 3](#_Toc400062000)

[1.1.1 Appearance Requirements 3](#_Toc400062001)

[1.1.2 Style Requirements 3](#_Toc400062002)

[1.2 Usability and Humanity Requirements 3](#_Toc400062003)

[1.2.1 Ease of use Requirements 3](#_Toc400062004)

[1.2.2 Personalization and Internationalization Requirements 3](#_Toc400062005)

[1.2.3 Learning Requirements 3](#_Toc400062006)

[1.2.4 Understandability and Politeness Requirements 3](#_Toc400062007)

[1.2.5 Accessibility Requirements 3](#_Toc400062008)

[1.3 Performance Requirements 3](#_Toc400062009)

[1.3.1 Speed and Latency Requirements 3](#_Toc400062010)

[1.3.2 Safety Critical Requirement 3](#_Toc400062011)

[1.3.3 Precision or Accuracy Requirements 4](#_Toc400062012)

[1.3.4 Reliability and Availability Requirements 4](#_Toc400062013)

[1.3.5 Capacity Requirements 4](#_Toc400062014)

[1.4 Operational and Environmental Requirements 4](#_Toc400062015)

[1.4.1 Expected Physical Environment 4](#_Toc400062016)

[1.4.2 Expected Technological Environment 4](#_Toc400062017)

[1.4.3 Partner Applications 4](#_Toc400062018)

[1.5 Maintainability and Portability Requirements 4](#_Toc400062019)

[1.5.1 Maintenance Requirements 4](#_Toc400062020)

[1.5.2 Portability 4](#_Toc400062021)

[1.6 Security Requirements 5](#_Toc400062022)

[1.6.1 Access Requirements 5](#_Toc400062023)

[1.6.2 Integrity Requirement 5](#_Toc400062026)

[1.6.3 Audit Requirement 5](#_Toc400062027)

[1.7 Cultural and Political Requirements 5](#_Toc400062029)

[1.7.1 Cultural Requirements 5](#_Toc400062030)

[1.7.2 Political Requirements 5](#_Toc400062032)

[1.8 Legal Requirements 5](#_Toc400062034)

[1.8.1 Compliance Requirements 5](#_Toc400062035)

[1.8.2 Standard Requirements 5](#_Toc400062038)

[1.9 Project Issues 6](#_Toc400062040)

[1.9.1 Open Issues 6](#_Toc400062041)

[1.9.2 Off the shelf solutions 6](#_Toc400062042)

[1.9.3 New Problems 6](#_Toc400062043)

[1.9.4 Tasks 6](#_Toc400062044)

[1.9.5 Risks 6](#_Toc400062045)

[1.9.6 Costs 6](#_Toc400062046)

[1.9.7 User Documentation 6](#_Toc400062047)

[1.9.8 Waiting room 6](#_Toc400062048)

[1.9.9 Ideas for solutions 6](#_Toc400062049)

# Non Functional Requirements

## Look And Feel Requirements

Appearance Requirements

* The user interface for the app will be simple minimal interface that will display student card and an option to pay all over campus. Also students will be able to view their past transactions.

Style Requirements

* The style of the app will be user friendly, keeping amount of pages as short as possible. So that user can easily surf through the app without any frustration.

## Usability and Humanity Requirements

Ease of use Requirements

* The MacGO app will be easy to use for any student out there.

Personalization and Internationalization Requirements

* Since each student has their own student card, they will have their virtual card on their phone which will be similar to their original card. The app will be in English.

Learning Requirements

* The learning curve will be minimal as possible. The user will be able to understand how the app works in not more than 5 minutes.

Understandability and Politeness Requirements

* Any user can use the app easily.
* There will be no inappropriate or any kind of grammar mistake with the app.

Accessibility Requirements

* The source code of the MacGO app is open source. The user will be able to compile the code through Github and run the app.
* The app will be supported on Android and IOS devices (with Internet connections).

Performance Requirements

Speed and Latency Requirements

* Accessing each feature for the app will take no longer than 10 seconds to process. There will no lags in acquiring any information through the app.

Safety Critical Requirement

* Each student data will be kept confidential.
* The app will make sure that it’s only accessible by McMaster students.
* For payments the app will provide its own random generated barcode to make sure that student is only able to pay using the app.

Precision or Accuracy Requirements

* Each student will have their own access.
* The app will validate authenticity of McMaster students.

Reliability and Availability Requirements

* If accepted by university it will be available for students to try and make real time payments all over the campus.
* Robustness or Fault- Tolerance Requirements
* MacGO will be robust enough to recover from errors such as trying to register some random student card.

Capacity Requirements

* The app should be easily scalable depending upon the current hardware which used to store current student data.
* While Prototype, the app will easily support tens of millions of users.

Operational and Environmental Requirements

Expected Physical Environment

* MacGO will only be applicable for payments in campus or off-campus restaurants where they accept student card as their mode of payment.

Expected Technological Environment

* If accepted by university this app can lead to future modification of using your smartphone to unlock doors and accessing different locations inside university.

Partner Applications

* Not Applicable

Maintainability and Portability Requirements

Maintenance Requirements

* Periodic patches might be required to make the app bug free.
* Special Conditions for Maintenance
* Support from university will be required if the app has to link to the existing data of students.

Portability

* The App initially will be running on all Android (above 4.0) and IOS Devices.
* In future, it can be easily ported to devices such as Blackberry, Windows since it will be linked to same database.

Security Requirements

Access Requirements

* Each student should only access their own account.
* Student should be able to make payments only via MacGO.

Integrity Requirement

* In order to ensure security a random generated barcode will be provided while making each payment.
* Apple finger print touch ID will be added in order to ensure in order to authenticate the user into the system.

Audit Requirement

* Not Applicable

Cultural and Political Requirement

Cultural Requirements

* Not Applicable
* Political Requirements
* Not Applicable

Legal Requirements

Compliance Requirements

* MacGO is open-source and will follow free-BSD license.
* App should not cause any patent issues.

Standard Requirements

* No confidential information will be shared or released to anyone except the authorized individuals.

Project Issues

Open Issues

Off the shelf solutions

New Problems

Tasks

Risks

Costs

User Documentation

Waiting room

Ideas for solutions