Leia Media: Requirements specification LeiaME

Leia Media: LeiaME -

Requirement Specification for release 1.0

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1 Introduction

This document is part of specification documentation for Leia Media: Leia System project.

1.1 Purpose and scope

The purpose of this document is to list the requirements for Leia Media: LeiaME release 1.0. The document may contain requirements for the further coming releases. Those requirements are under "Future userstories" section in lists.

1.2 Requirement identification

System requirements are divided as functional and non-functional requirements. Functional requirements are described as user stories. Non-functional requirements are described as IEEE 830-1998 style requirements.

Each requirement has also a given priority and estimated size of implementation. The possible priorities are:

- **Mandatory**: Failure to meet a mandatory requirement destroys competitiveness of the product.
- **Important**: Failure to meet an important requirement decreases competitiveness of the product but does not make the product uncompetitive.
- **Desirable**: Failure to meet a desirable requirement does not have remarkable impact on competitiveness of the product.
- **Guideline**: Whether a guideline requirement is met does not have direct impact on competitiveness of product although the requirement may be important in some other dimension.

The options for implementation size estimations are:

- **XS** (eXtra Small): Very small size tasks which are less than four hours, (**X <= 0,5d**)
- **S** (Small): Small size tasks typically around one working day, (**0,5d < X <= 2d**)
- **M** (Medium): Medium size tasks typically around three working days, (**2d < X <= 5d**)

- **L** (Large): Large size tasks from one week to two weeks, (**5d < X <= 10d**)
- **XL** (eXtra Large): Very large size tasks from two weeks to one month, (**10d < X <= 22d**)

1.3 Glossary

Term	Description
Device	An e-ink based reading device
LeiaME aka Application	A Media extender (ME) application for Android and Windows Phone 8, which runs in a mobile phone and provides connectivity for the Leia device to the PapyrOS backend.
PapyrOS	The backend system, where the publishing companies can add their content and manage the subscribed Leia devices.

1.4 Reference documents

1. Architecture specification
2. Requirement specification for PapyrOS

2 System/Service overview

2.1 General overview

LeiaME is a mobile application used by users and teachers to update their Devices with current content. It's connected to the PapyrOS server via HTTP connection. There's two main roles and pilot versions of the application and they have been described in chapters below.

Userstories will be split to Closed Alpha and Pilot Release 1 based on time estimations and prioritization. Future userstories will be added to the product backlog.

2.2 User

Also known as "Sanoma pilot" user.

The application will work without logging in as a proxy which just delivers material for a single Device. Application pairs with the Device and communicates with the PapyrOS server to download and deliver latest content to the Device. Connection method between Application and Device has not been decided yet - it will be either Bluetooth or WiFi. User can also see some statistics about the progress of content updating.

2.3 Superuser

Also known as "Teacher" role and "Africa case" user.

Superuser can log in to the application and select available content to be downloaded and synced to multiple Devices. Superuser can see statistics about the progress of updating and she can see a list of connected devices.

2.4 System constraints and drivers

Economic	•
Political	
Technical	•
System	•
Environmental	•
Schedule and resources	

2.5 Stakeholders

List of stakeholders:

- Codemate Ltd.
- Leia Media

2.6 System boundaries and actors

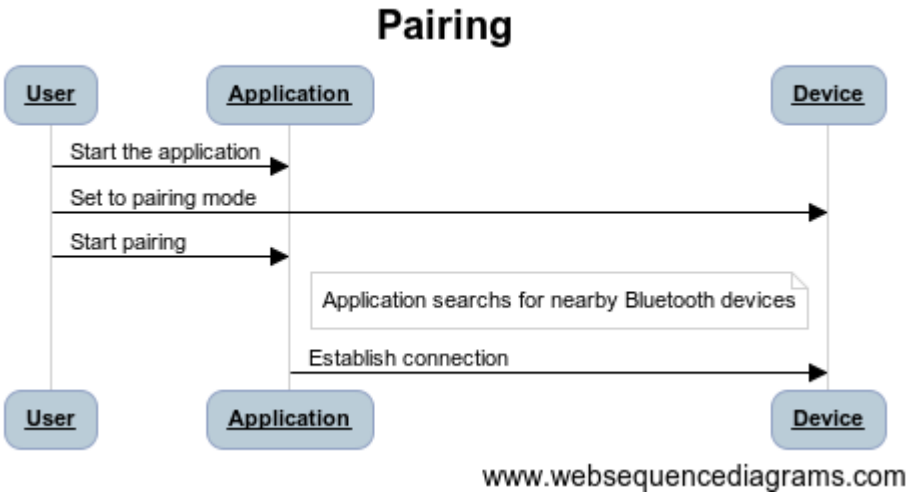
2.6.1 List of actors

Name	Description
PapyrOS	Backend system
Device	Tablet reader

3 High level system use-cases

3.1 Pairing

User can pair one Device. Superuser can pair multiple Devices.

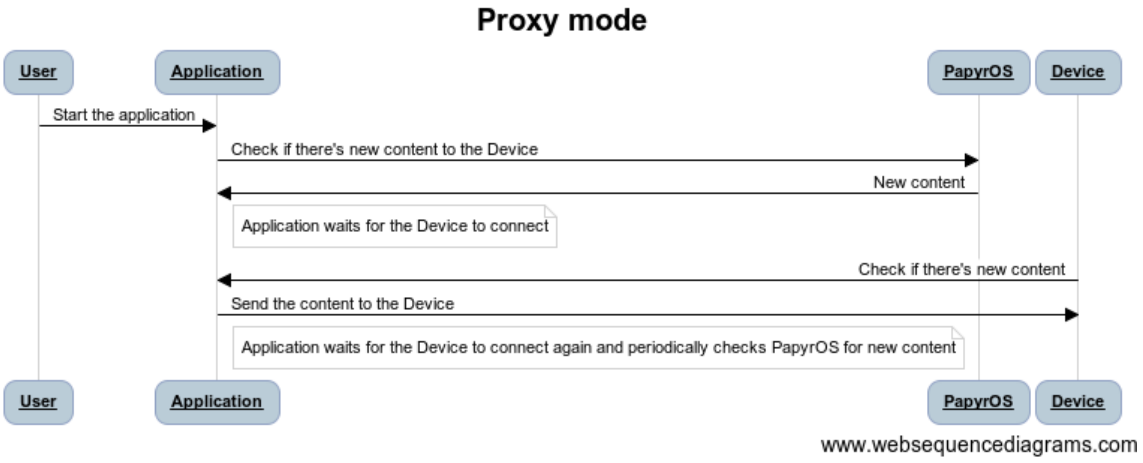


http://www.websequencediagrams.com/

```
title Pairing
User->Application: Start the application
User->Device: Set to pairing mode
User->Application: Start pairing
note right of Application: Application searchs for nearby Bluetooth devices
Application->Device: Establish connection
```

3.2 Proxy mode

Application automatically provides the Device with latest content.



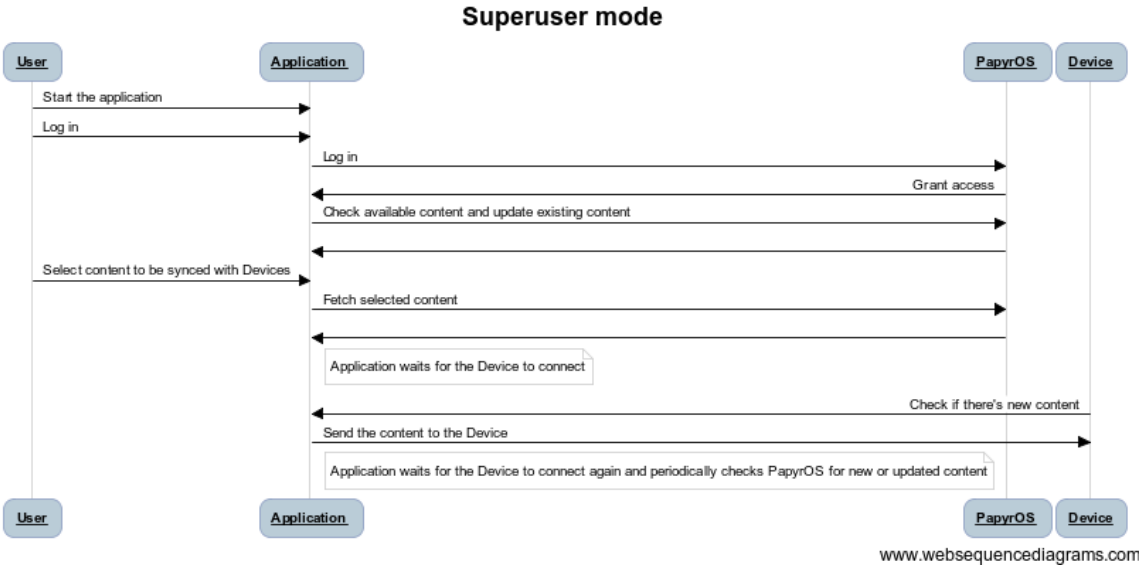
www.websequencediagrams.com

```
title Proxy mode

User->Application: Start the application
Application->PapyrOS: Check if there's new content to the Device
PapyrOS->Application: New content
note right of Application: Application waits for the Device to connect
Device->Application: Check if there's new content
Application->Device: Send the content to the Device
note right of Application: Application waits for the Device to connect again and periodically
checks PapyrOS for new content
```

3.3 Superuser mode

Superuser can select the content for multiple Devices.



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```
title Superuser mode

User->Application: Start the application
User->Application: Log in
Application->PapyrOS: Log in
PapyrOS->Application: Grant access
Application->PapyrOS: Check available content and update existing content
PapyrOS->Application:
User->Application: Select content to be synced with Devices
Application->PapyrOS: Fetch selected content
PapyrOS->Application:
note right of Application: Application waits for the Device to connect
Device->Application: Check if there's new content
Application->Device: Send the content to the Device
note right of Application: Application waits for the Device to connect again and periodically
checks PapyrOS for new or updated content
```

4 User stories/Features (Functional requirements)

4.1 Common features

User Story/Feature:	Priority:	Size:	Details
As an Application, I know the list of Leia devices to which I'm allowed to send material, and I won't deliver material to any other device.	Important		
As an Application, I want to be able to receive a sync connection from a Leia device	Important		User: 1 connection. Superuser: multiple connections.
As a user/superuser, I want to see status (version, downloaded etc) of my content	Important		
As a user/superuser, I want to see syncing status of the content	Important		
As a user/superuser, I want to see available content in tree category	Important		
As a user/superuser, I want to use the application in English or Finnish	Important		
As an Application, I will receive connections from Device/Devices in every one hour.			Release 1: fixed to 1 hour.
Future userstories			
As a user/superuser, I want to use the application in Swahili or Chinese			Release 2
As a user, I want to select additional subscriptions (candy store)			Release 2
As an Application, I can update the Leia device with the next download check time for scheduled contents.	Important		Release 2.
As an Application, I periodically check PapyrOS for new material to deliver. When connecting to PapyrOS, Leia ME will get instructions when to establish the connection next time.	Important		Release 2. Release 1: fixed to 1 hour.
As a user/superuser, I can send also local material to Leia device			Time estimation. Release 1/2

4.2 As a user

User Story/Feature:	Priority:	Size:	Details:
As a user, I don't want to interact with the application to be able to update my devices			Pairing the Device is needed
As a user, I want to pair my device with the application			Only one

4.3 As a superuser

User Story/Feature:	Priority:	Size:	Details:
As a superuser, I want to deliver the content to whole classroom at once	Important		Release 1

As a superuser, I want that all connected devices are equal with content	Important		Release 1
As a superuser, I want to select content which I want to sync to the devices	Important		
As a superuser, I want log in with my existing credentials	Important		Closed Alpha (Release 1)
As a superuser, I want to see list of connected devices	High		
As a superuser, I want to pair my devices with the application			Multiple devices

5 Non-Functional system requirements

5.1 Usability

Description:	Priority:	Size:	Notes:

5.2 Reliability & Availability

Description:	Priority:	Size:	Notes:

5.3 Performance and Scalability

Description:	Priority:	Size:	Notes:
As a superuser I want that updating multiple Devices wont last too long			Device count and time limit will be defined later. It might be even necessary to investigate other possibilites on Application - Device connection than Bluetooth (WiFi). Also we need to consider some kind of compression for the files or replacing image files with text based solution like XML (PapyrOS - Application).

5.4 Portability and Compatibility

Description:	Priority:	Size:	Notes:

5.5 Safety, Security and Accessibility

Description:	Priority:	Size:	Notes: