# Mobile Design Pattern: Live Scrolling

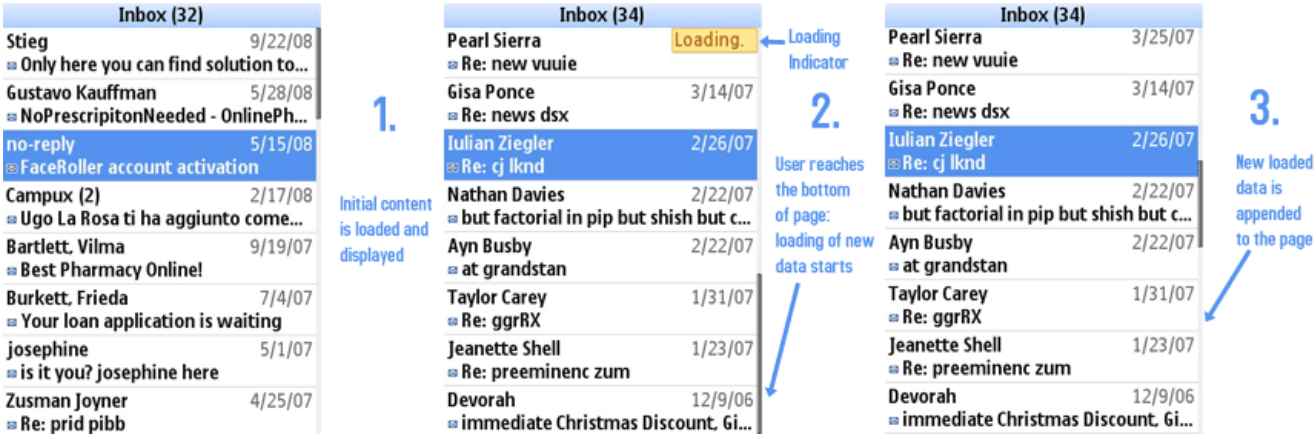
## Description

The **Live Scrolling** Design Pattern, also known as **Continuous Scrolling** or **Infinite Scrolling**, is a way of displaying and loading data in incremental manner, alternative to **Pagination** (Mobile Design Pattern: Paging).

With Live Scrolling, **a first subset of data is initially loaded and shown** to the user. Then, **when the user reaches the bottom** of this data, **a new set of data is automatically loaded and displayed**. So, there's **no need of explicit user interaction** to load the next available items, contrary to **Pagination**, where the user has to click on a button or link to go to another page.

When **new items** are loaded, they're **appended to the items already displayed** to the user, so giving him the impression of a never-ending page, contrary to **Pagination**, where only a subset of data is always visible to the user.

An example of **Live Scrolling** is visible in the Gmail mobile client:




## Advantages

- **User interaction is more intuitive and fast**, since the user does not need to press any buttons to see the next available items
- **While a new set of data is loading, the user can continue to view and browse** the data already displayed, so improving the overall user experience
- **All loaded data is visible** to the user, not only the last loaded one

## Disadvantages

- User has **typically no explicit information about the total number of items**
- User has **no way to go directly to a specific set of data**, but has to load all the items until the desired one

## Use when

The Live Scrolling Design Pattern is useful when there is the need of loading and displaying large sets of data.

## Use how

The typical implementation of this Design Pattern is structured as follows:

- a **first set of data is loaded**
- the user can freely scroll and view the loaded data
- when the **user reaches the bottom of this data**, **new data is automatically loaded** in background
- as soon as the new data is available, it is **appended to the existing one**

While a new set of data is loading in background, the user is free to continue reading and scrolling the already available items: so, it is important that the user interface remains usable

Alternative implementations use a **button or link**, placed at the bottom of the available data, to **allow the user to explicitly ask for new items**.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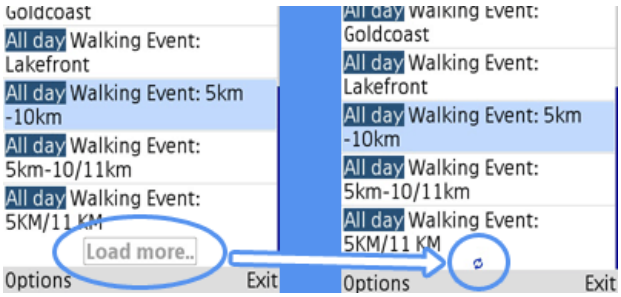


This approach gives to the user more control over the loading of data, but loses the intuitiveness of the automatic loading of data, typical of **Live Scrolling**. An example of this alternative approach is visible in the Facebook website:

## Design Tips

- **Load relatively small sets of data** for each step: this will increase loading speed, and give more responsiveness to applications
- Give the user a **clear indication when new data is loading**, to avoid the impression of blocked user interface
- If there is an **error while loading** the next set of data, it is **good practice to automatically retry to load it**, for a predefined number of times


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