



ChronoLines

User Manual

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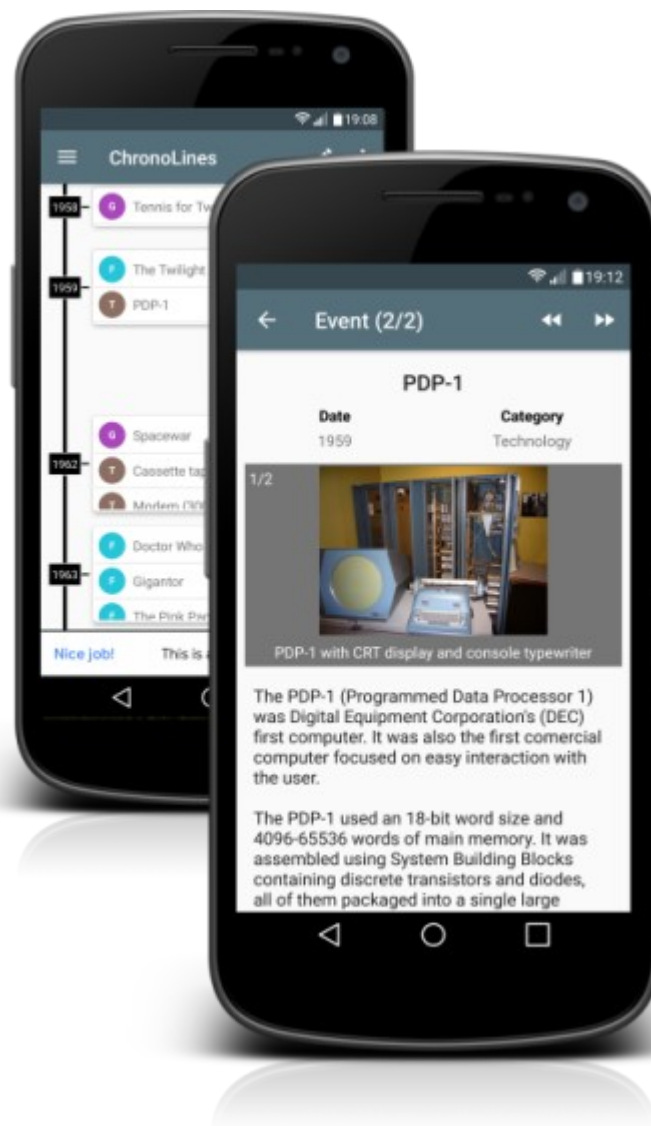
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Overview

The use of mobile phones and tablets connected to internet all over the world has made easier than ever the access to information. Nowadays, we can look up any data when we are studying at home, or make the most of the time while travelling by train to read about any subject of interest to us. Furthermore, new technologies allow us visualize and manage information in ways that were impossible before.

Information technologies open up many possibilities in education, and let people with common interests share information in a direct and collaborative way.

With that in mind we have developed **ChronoLines** as an Android application intended for creating and sharing chronologies about any subject.



A chronology shows a series of events in chronological order. **ChronoLines** let the user move along the time line, add or delete events easily and group those events in categories. In this way it is possible to compare events that happened at the same time in different places and understand the causal relationships between them, or see clearly the effects of a historical change throughout time.

ChronoLines main features:

- Search and download chronologies from our shared library or import them from received "*chrono*" files.
- Create new chronologies or edit existing ones and upload changes.
- Share chronologies using the remote shared library or sending them to other people as "*chrono*" files.
- Use different date formats for your chronologies: only year, year-month, year-month-day, year-era.
- Classify events in categories that can be separately shown / hidden.
- Add images and links to on-line resources to events.

When can be of interest to use a chronology?

- History.
- People biographies.
- Discographies of music groups.
- Bibliographies of famous writers.
- Others cultural activities...

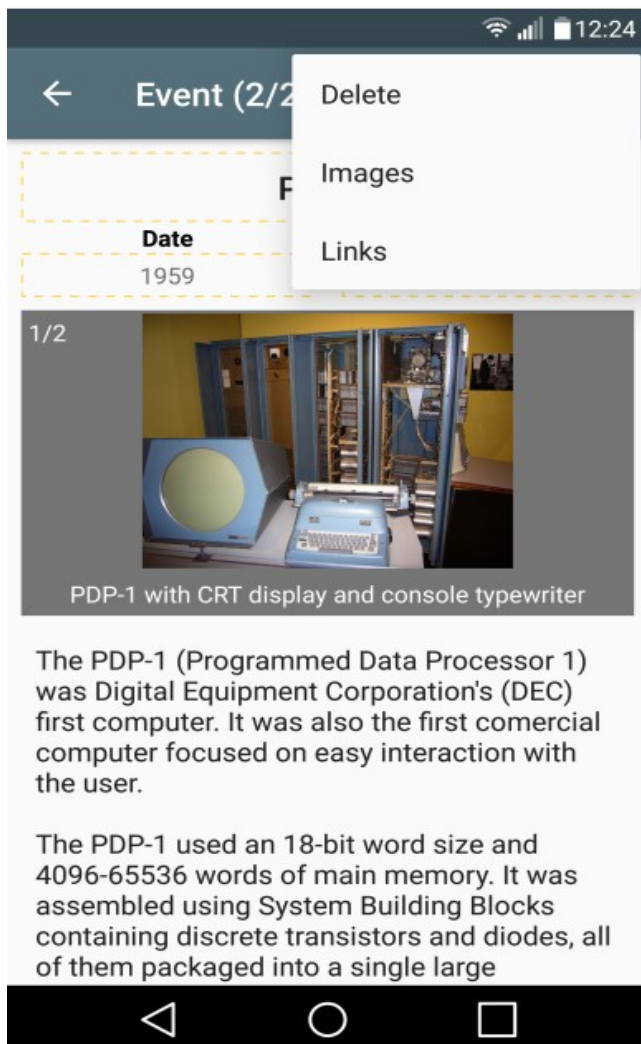
Edit mode / View mode

While using **ChronoLines** the user can change between two operating modes: *Edit mode* and *View mode*.

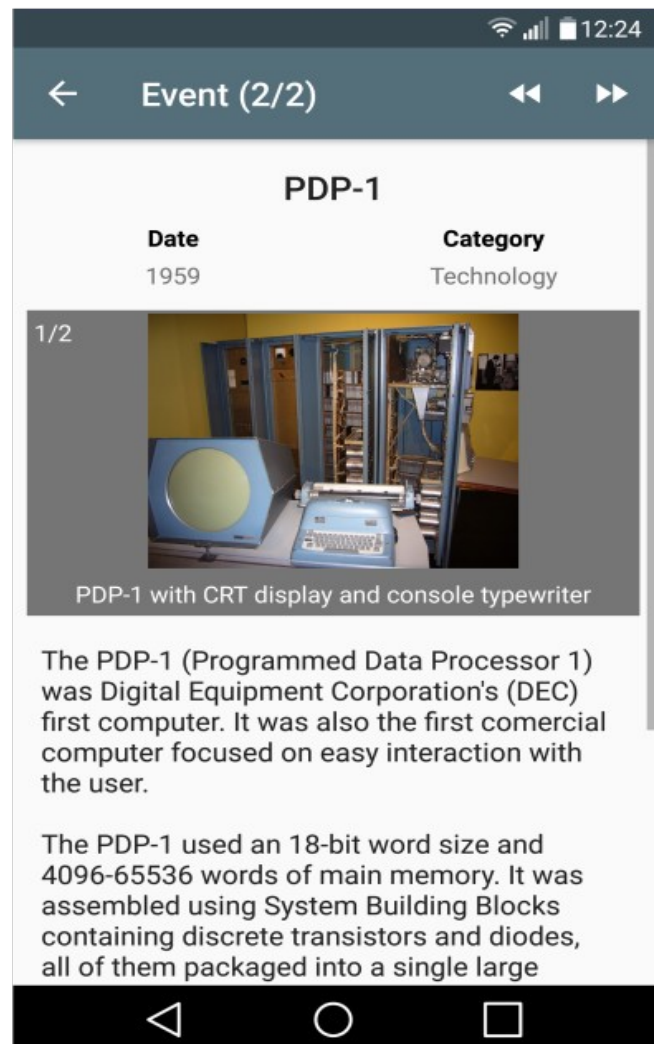
In *Edit mode* it is possible to change the content of the chronology. A floating button to add events is visible in the *Time Line* screen, and if the user accesses the information of an existing event he will see that certain areas of the screen are highlighted. By touching on those areas the user can edit the associated information (title, date...). The options available through the application's menus also change depending on the operating mode. In *Edit mode* there are menu options to manage categories, images and links associated to events, as well as options to delete events or the entire chronology.

In *View mode* the user can only browse through the chronology's information. There are no highlighted areas in this mode, and if the user touches over an event's title or any other editable parameter nothing happens to avoid unwanted modifications. The user interface is adapted to show chronology's information cleanly.

Edit mode



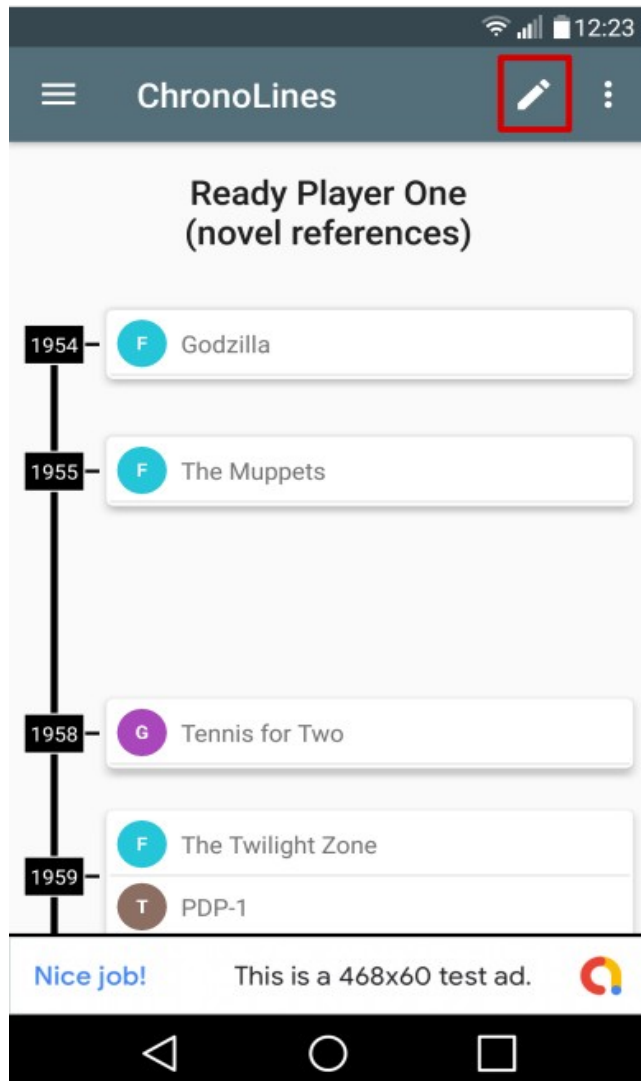
View mode



It is possible to switch between *Edit mode* and *View mode* using a button available on the toolbar of the *Time Line* screen.

- In *Edit mode* the button has the shape of an "eye" to change to *View mode*.
- In *View mode* the button has the shape on a "pencil" to change to *Edit mode*.

Change to Edit mode



Change to View mode



Time line and events

The first screen the user views when a new chronology is opened is the *Time Line* screen. This is a vertically scrollable screen with dates on the left side, and events that happened at those dates on the right side.



A vertical line connects all dates representing the time flow. Only dates with associated events appear in the time line. The maximum length of the line between two consecutive dates can be controlled by means of a chronology's option called *Jump threshold*. If the difference in time between two consecutive dates is longer than the *Jump threshold* then a short dashed line is drawn to represent a leap forward in time. See the chapter dedicated to chronology's options to know how to change the value of *Jump threshold*.

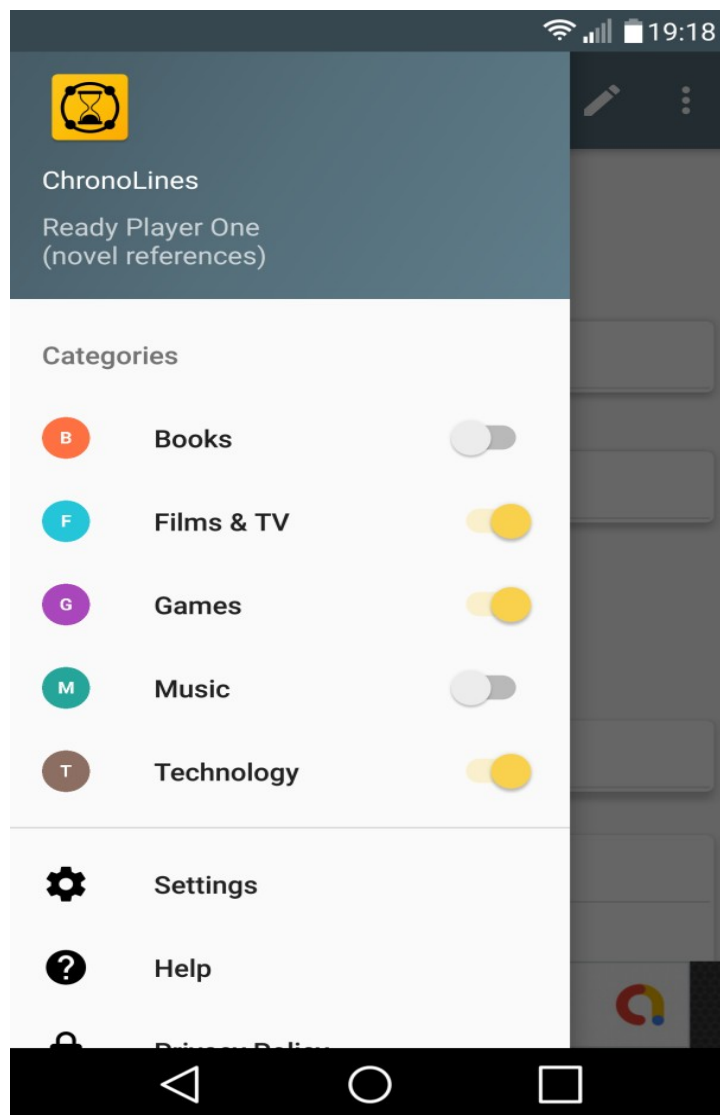
The format used for events dates can be changed depending on the time granularity the user wants to use. There are four date formats available:

- Only year (i.e: 2019).
- Year-month (i.e: 2019-07).
- Year-month-day (i.e: 2019-07-11).
- year-era (i.e: 345 BC or 1492 AD).

The date format is selected at the time the chronology is created, and can be changed after that from the chronology's options screen.

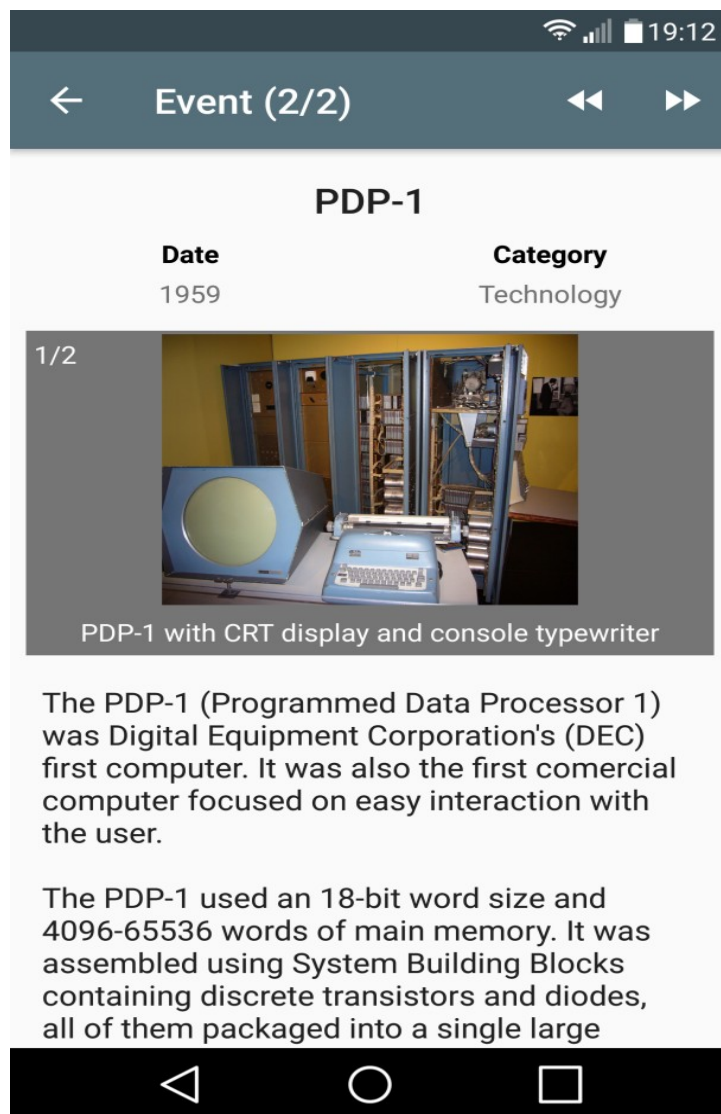
The events appears on the right side of the screen connected to their corresponding dates. When three or more events have the same date, they appear grouped in their own nested scrollable area.

If the user touches the icon on the upper left corner of the screen, a side panel is shown. This side panel contains a list of event categories defined by the chronology's author. There is a switch button at the right of each category name that let the user decide if the events of that category are shown or not in the *Time Line* screen.



When the user touches on an event a new screen with detailed information about that event is opened. The information associated to an event includes the following items:

- The title that identifies the event.
- The date of the event (format can change as stated before).
- The category of the event, selected from a list of user defined categories (see the chapter dedicated to event categories).
- A long text description of the event.
- Optionally, one or more images. These images are shown in a slideshow with their corresponding foot notes.
- Optionally, one or more links to on-line resources. These links are shown as a list below the event description.



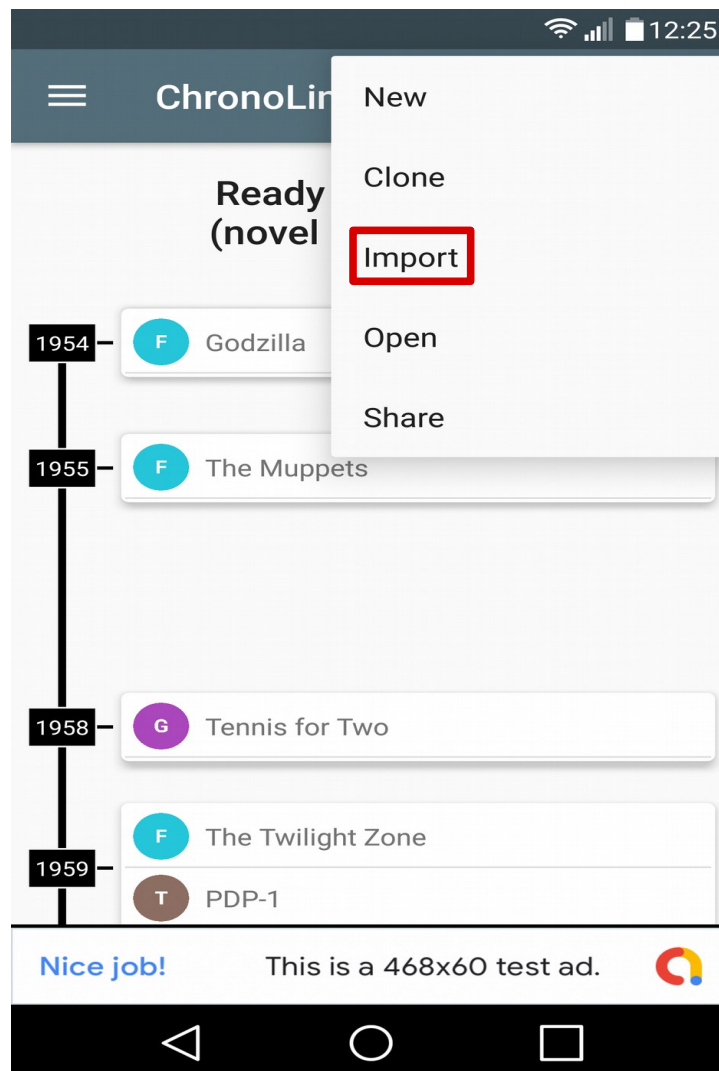
In *Edit mode* all these items are editable. The title, date and category are displayed with a dash line around them indicating that the user can touch on that area to show a dialog created specifically to change the parameter's value. The long description can be edited directly in the event screen. Finally, the images and links associated to an event can be manage through menu options (see the chapters dedicated to images and links management).

In *View mode* a couple of action buttons on the upper right corner of the screen let the user change forward and backward through all the events happened in a same date.

Import an existing chronology

Probably the first thing a user wants to do after **ChronoLines** installation is download a chronology to view the capabilities of the application in action.

Before the user can open a chronology he has to import it. In *View mode* there is an *Import* option in the menu of the *Time Line* screen.



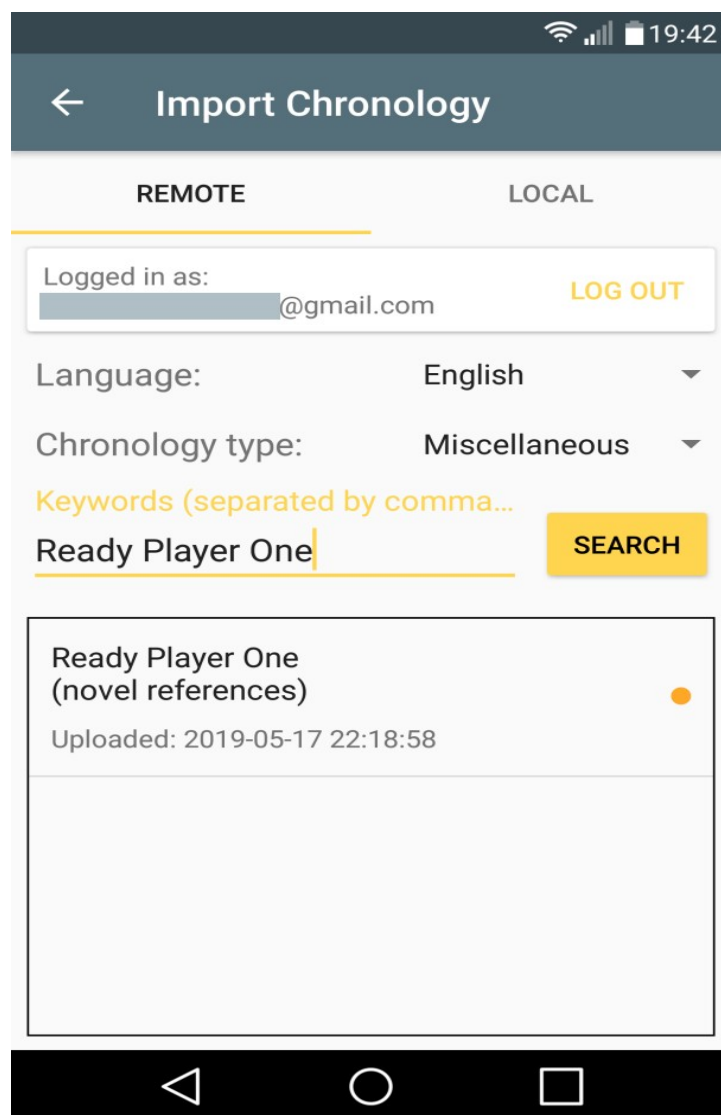
When the user selects the *Import* menu option a new screen is opened. The *Import* screen has two sections (or tabs) because the user has two possibilities at the time of importing a chronology:

- Search and download a chronology from a remote library shared among all the application's users.
- Import a chronology from a file with "*chrono*" extension shared directly between two application's users.

To import a chronology from the remote shared library follow the steps below:

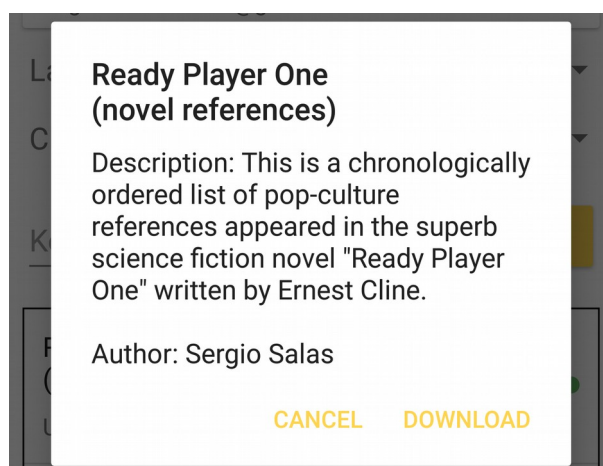
1. Select the tab identified as *REMOTE* on the top of the screen.

2. To access the remote shared library you must log in to the cloud storage service. This service uses the Google's Firebase platform to ensure the user's security and privacy. The first time a user enters the *Import screen* he will see the message "*You must be logged into de the remote library to browse its content*" and a *LOG IN* button at the right of the message. Touch on the *LOG IN* button.
3. A new screen will be opened showing two possible authentication methods:
 - Sign in with Google: The user has to select one of the google accounts configured in the mobile phone as login credentials.
 - Sign in with email: The user has to provide an email address and a password as login credentials. The password will be saved the first time it is used.
4. After the user has logged in to the cloud storage service the application returns to the *Import screen*. This time the user will see the message "*Logged in as: <email>*" and a *LOG OUT* button at the right of the message.



5. Select the language of the chronology using a drop down list with the following options:
 - English.
 - Spanish.

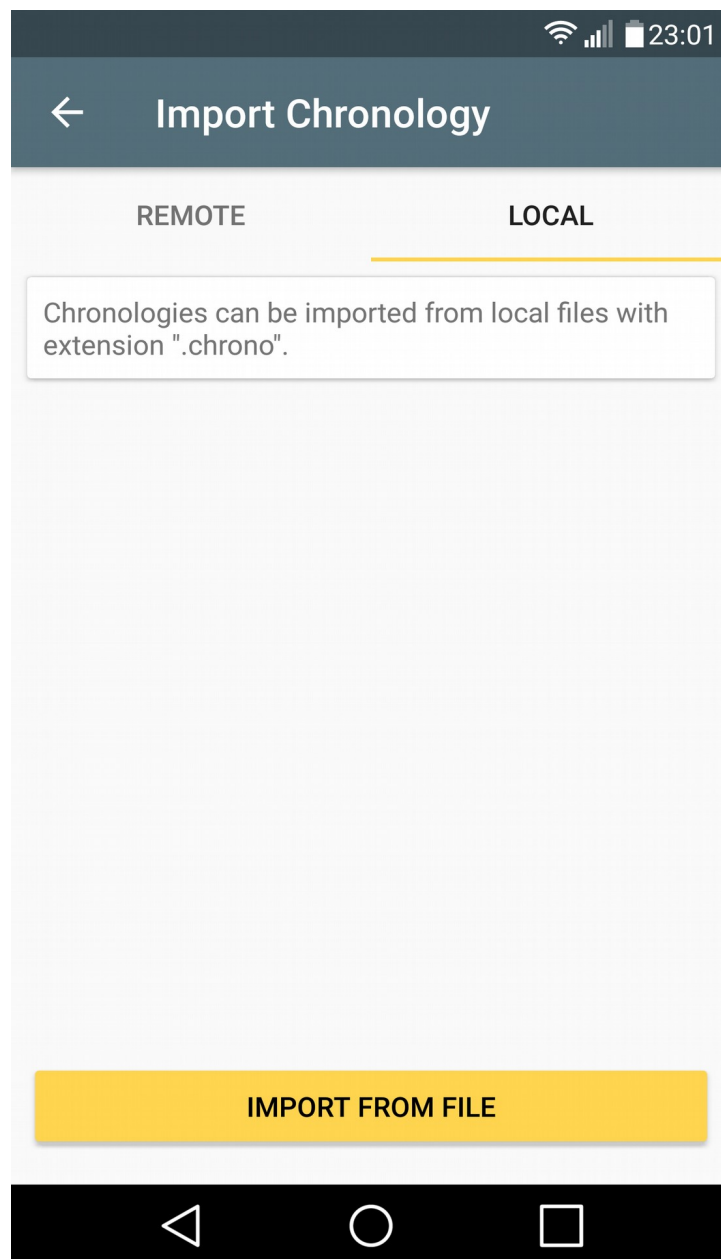
6. Select the type of chronology using a drop down list with the following options:
- History.
 - Biographies.
 - Music.
 - Literature.
 - Art.
 - Technology.
 - Miscenalleneous.
7. Optionally, the user can type a list of keywords to narrow down the search.
8. Touch on the *SEARCH* button. A list of chronologies that meet search criteria will appear in the box below the *SEARCH* button. Each list item contains the title of a chronology, and the date and time when the chronology was uploaded to the remote shared library. In addition, a point of different colors can appear at the right of the chronology's title. Below is the meaning of the different colors:
- Green: The user has already downloaded the chronology and he has the same version that is currently available in the remote server.
 - Blue: The user has already downloaded the chronology but there is a new version in the remote server. The chronology hasn't changed so it is safe to download the new version.
 - Orange: The user has already downloaded the chronology and he has made changes. If the chronology is downloaded again the changes will be lost. The user should upload the modified chronology to the remote server
 - No point: The user has never downloaded the chronology.
9. Touch on one chronology of the list. A download dialog will appear showing the title, description and author of the chronology. Review the information and then decide to continue with the download or to cancel it.



10. If the user selects to download the chronology, a progress dialog will appear at the center of the screen while the download is in progress. Also, a notification will show the progress of the download on the status bar.

To import a chronology from a file with "*chrono*" extension follow the steps below:

1. Select the tab identified as *LOCAL* on the top of the screen.
2. Touch on the "*IMPORT FROM FILE*" button.

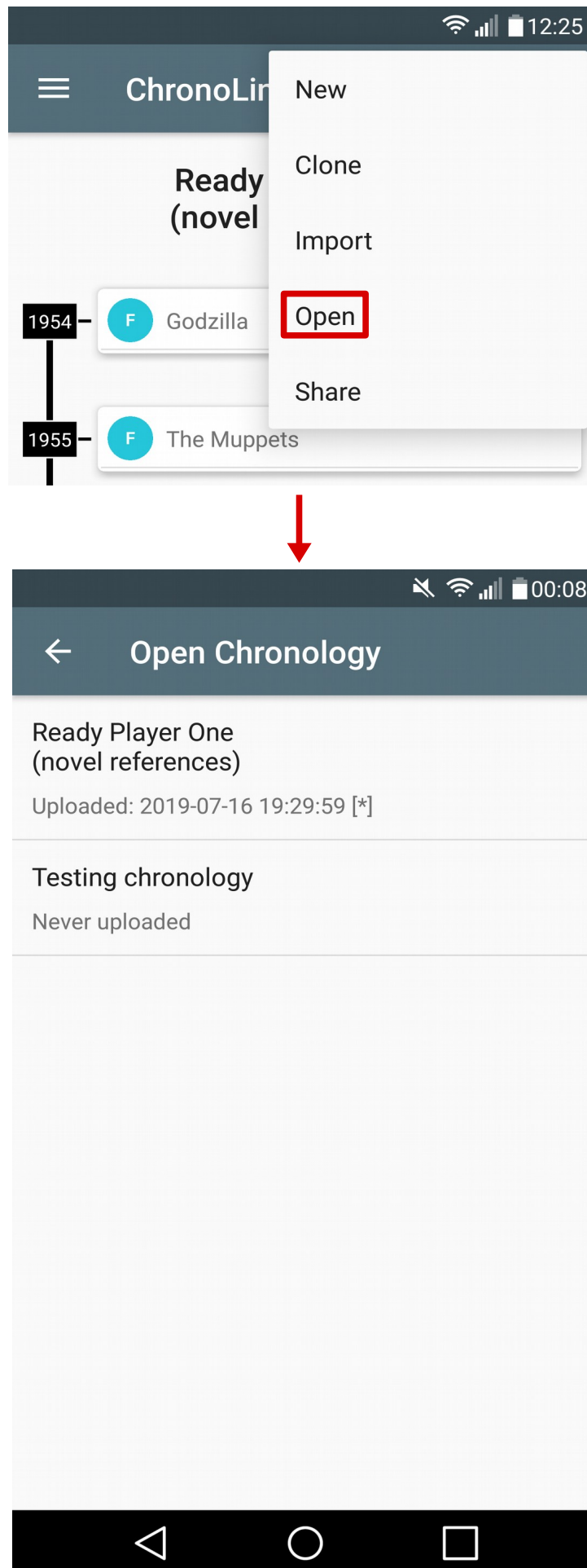


3. A file picker will be opened. The user can select a file with "*chrono*" extension from the local file system or from any other document provider such as Google drive.
4. The content of the selected file will be imported to the application's private storage. After being imported the file can be deleted without data loss.

Once the chronology has been imported the user can open it. In *View mode* there is an *Open* option in the menu of the *Time Line* screen.

When the user selects the *Open* menu option a new screen is opened. The *Open* screen contains a list of available chronologies. For each chronology the user can view the title and the last upload date and time. If the chronology has been modified after the last

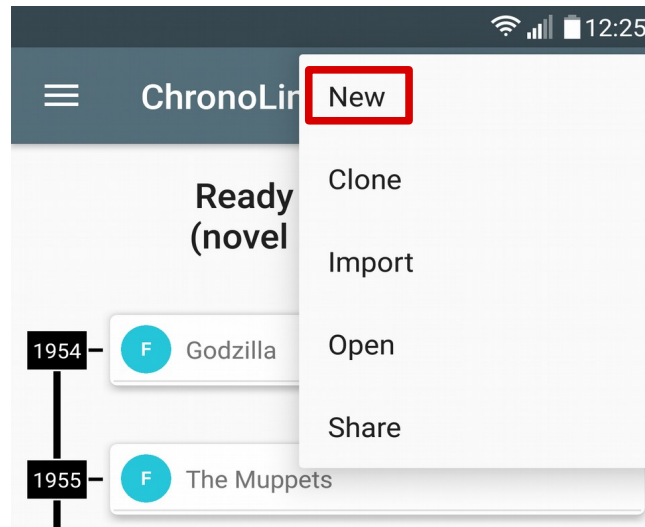
upload to the remote shared library, an asterisk will appear at the right of the date. The user only have to select the chronology he wants to open.



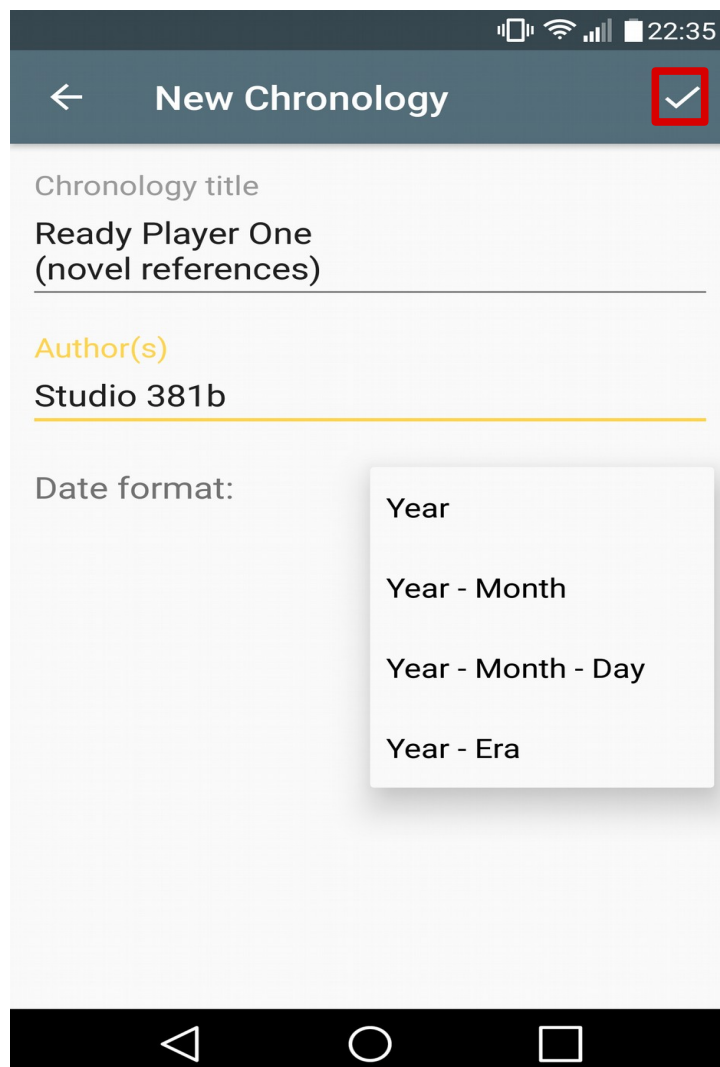
Create a new chronology

A user can create his own chronologies to share them with other **ChronoLines** users.

1. In *View mode* there is a *New* option in the menu of the *Time Line* screen.



2. When the user selects the *New* menu option a new screen is opened.



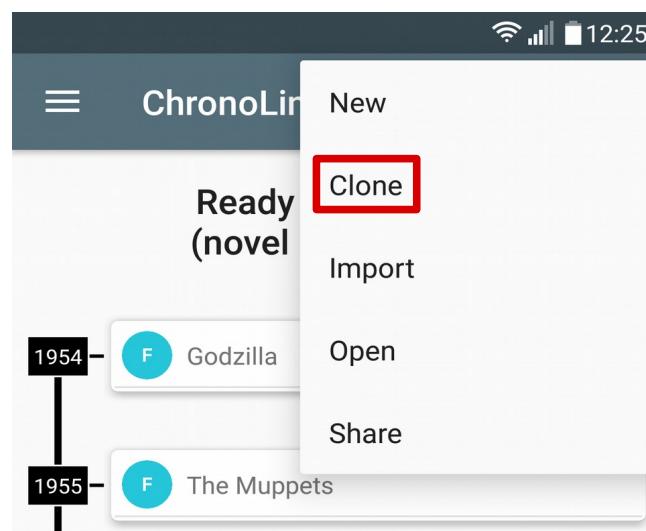
3. Enter a title for the new chronology.
4. Enter one or more authors.
5. Select the format that will be used for the dates using a drop down list with the following options:
 - Only year (i.e: 2019).
 - Year-month (i.e: 2019-07).
 - Year-month-day (i.e: 2019-07-11).
 - year-era (i.e: 345 BC or 1492 AD).
6. Touch on the tick button on the upper right corner of the screen to confirm the creation of the new chronology. The chronology will be open in *Edit mode* so the user can begin to add events directly.

Clone current chronology

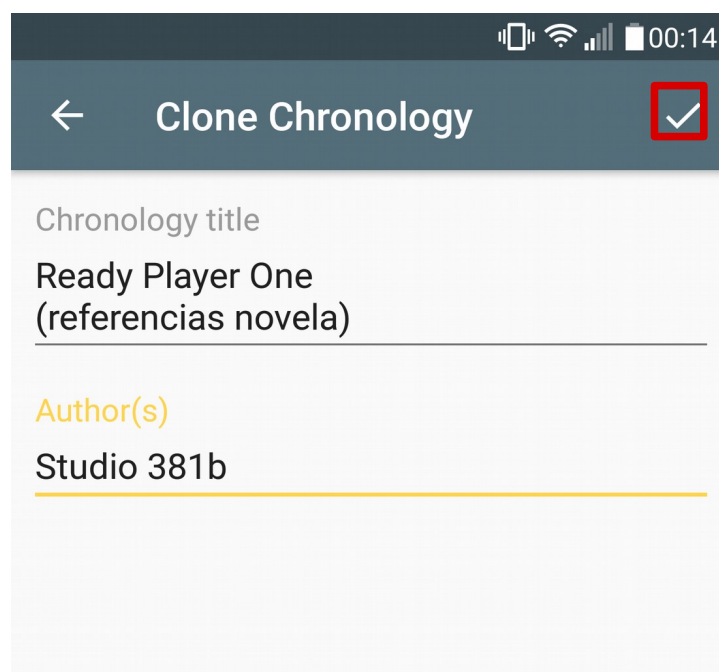
In some cases a user can want to create a new chronology starting with all the content of an existing chronology. For example:

- To translate a chronology a user can start by cloning the original chronology and then translate the titles and descriptions of the events to a new language.
- To create a chronology that extends the scope of an existing one, a user can clone the original chronology and add events of new categories or happened on different periods of time. If the user only wants to add events that match the approach of the original chronology he should simply modify it and share the changes.

1. In *View mode* there is a *Clone* option in the menu of the *Time Line* screen.



2. When the user selects the *Clone* menu option a new screen is opened.

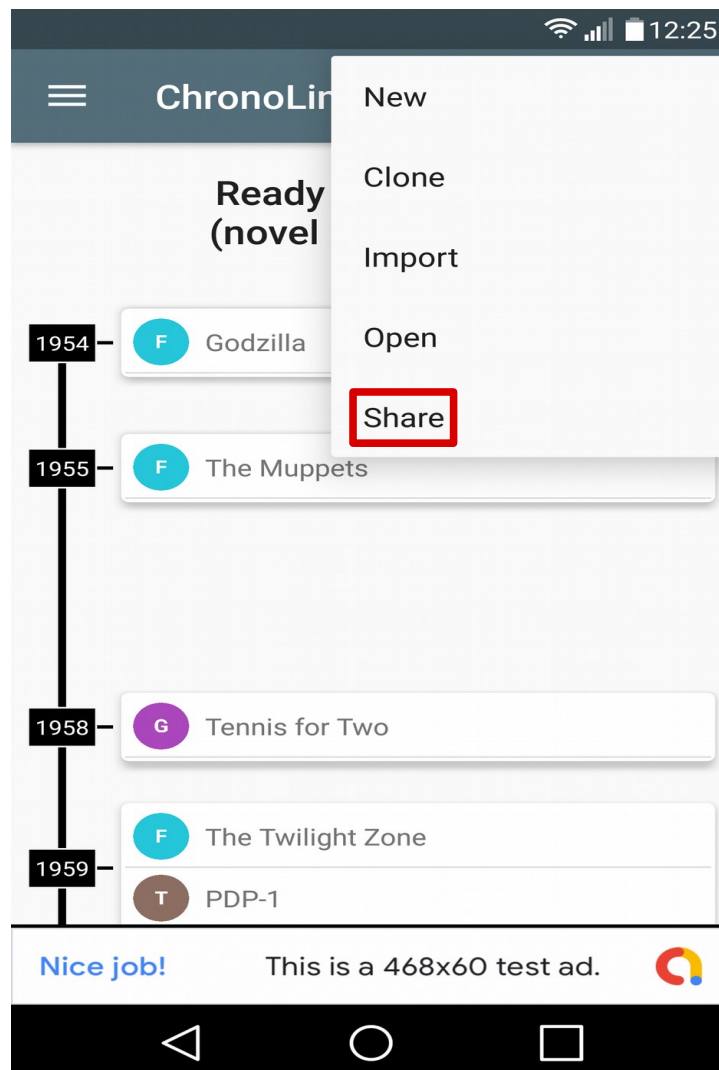


3. Enter a title for the new chronology.
4. Modify the list of authors. You should always preserve the authors of the original chronology.
5. Touch on the tick button on the upper right corner of the screen to confirm the clonation of the original chronology. The new chronology will be open in *Edit mode* so the user can begin to add events directly.

Sharing chronologies with other users

ChronoLines application has been designed to created contents and share them with other people easily.

In *View mode* there is a *Share* option in the menu of the *Time Line* screen.



When the user selects the *Share* menu option a new screen is opened. The *Share* screen has two sections (or tabs) because the user has two possibilities at the time of sharing a chronology:

- Upload the chronology to a remote library shared among all the application's users.
- Export the chronology to a file with "*chrono*" extension and send it directly to another application's users.

To upload a chronology to the remote shared library follow the steps below:

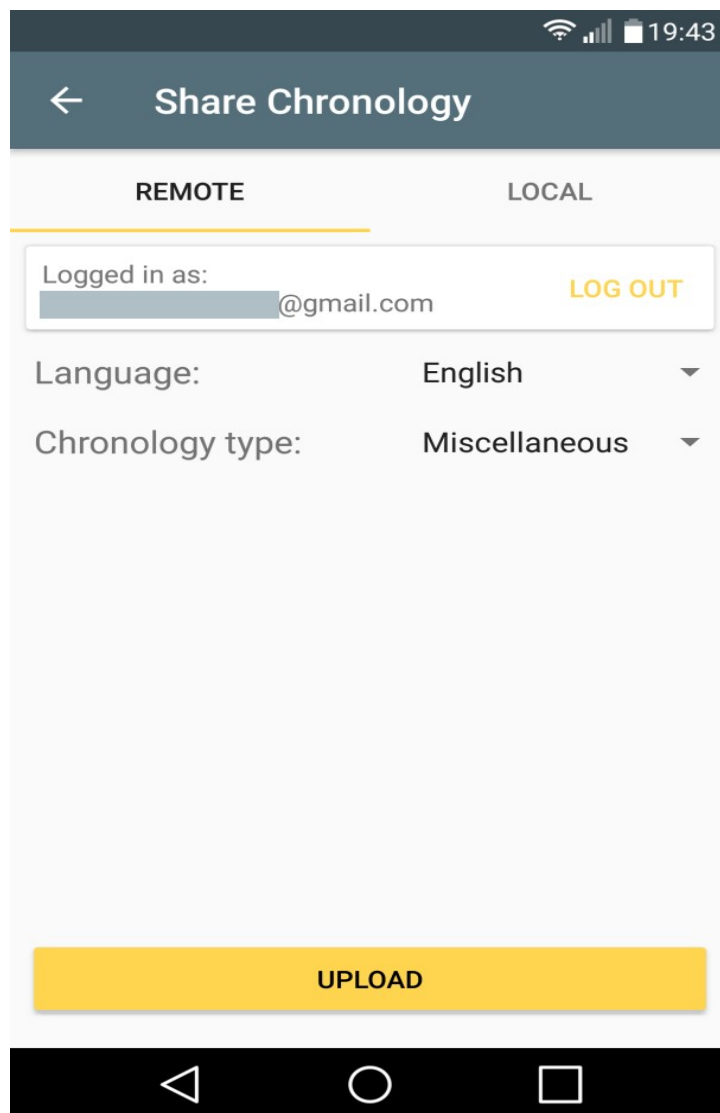
1. Select the tab identified as *REMOTE* on the top of the screen.
2. To access the remote shared library you must log in to the cloud storage service. This service uses the Google's Firebase platform to ensure the user's security and

privacy. The first time a user enters the *Share* screen he will see the message "*You must be logged into de the remote library to upload new files*" and a *LOG IN* button at the right of the message. Touch on the *LOG IN* button.

3. A new screen will be opened showing two possible authentication methods:

- Sign in with Google: The user has to select one of the google accounts configured in the mobile phone as login credentials.
- Sign in with email: The user has to provide an email address and a password as login credentials. The password will be saved the first time it is used.

4. After the user has logged in to the cloud storage service the application returns to the *Share* screen. This time the user will see the message "*Logged in as: <email>*" and a *LOG OUT* button at the right of the message.

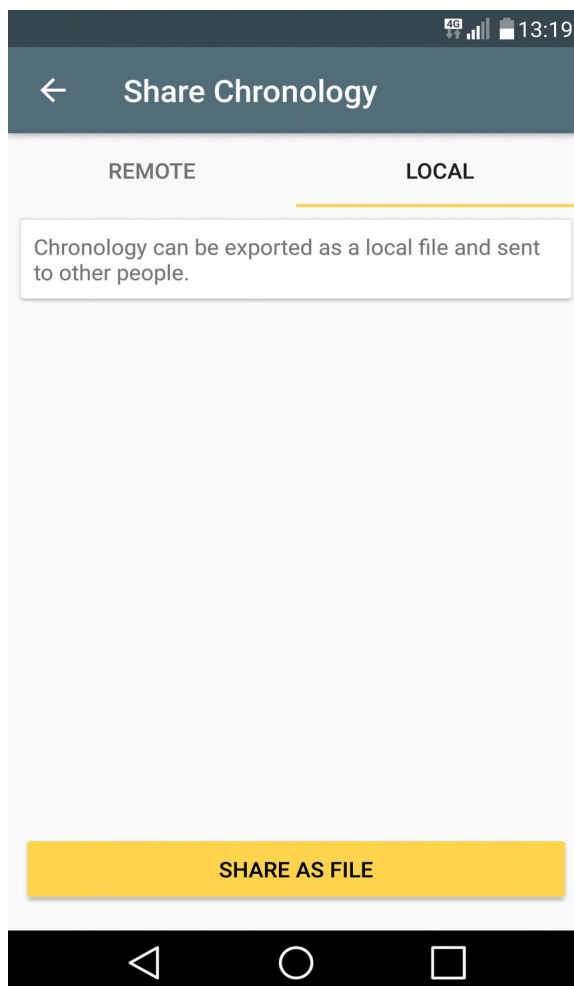


5. The parameters *Language* and *Type* must be specified by the author of a chronology the first time the chronology is uploaded, and help others user to find the chronology when they search through the remote shared library. If the chronology has been uploaded previously, these parameters will be pre-configured with the options selected the last time the chronology was uploaded, and probably it is not necesary to change them. In that case the user can skip directly to step 8.

6. Select the language of the chronology using a drop down list with the following options:
 - English.
 - Spanish.
7. Select the type of chronology using a drop down list with the following options:
 - History.
 - Biographies.
 - Music.
 - Literature.
 - Art.
 - Technology.
 - Miscenalleneous.
8. Touch on the *UPLOAD* button. A progress dialog will appear at the center of the screen while the upload is in progress. Also, a notification will show the progress of the upload on the status bar.

To export a chronology to a file with "*chrono*" extension and share it follow the steps below:

1. Select the tab identified as *LOCAL* on the top of the screen.

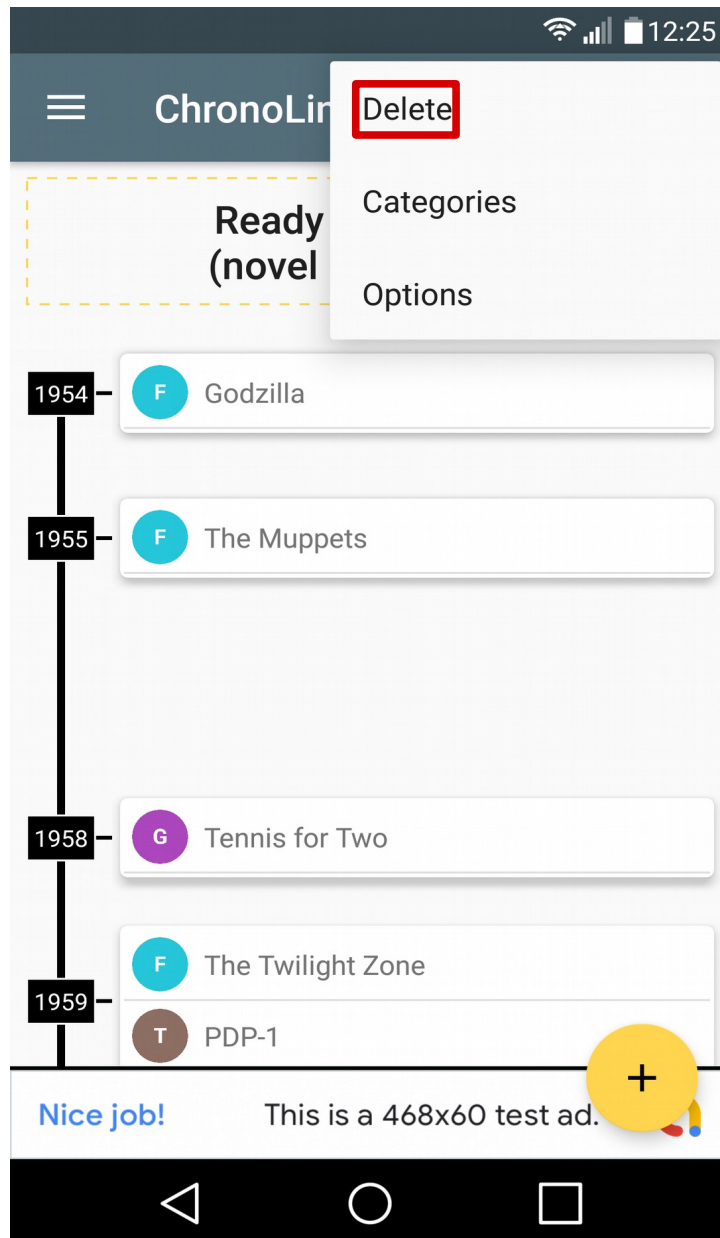


2. Touch on the "*SHARE AS FILE*" button.
3. A progress dialog will appear at the center of the screen while the content of the chronology is exported to a file with "*chrono*" extension. After that, a new dialog will appear for the user to select the service he wants to use to share the file. Email, Google Drive or Whatsapp are examples of services that the user can use to send the exported file to other people.

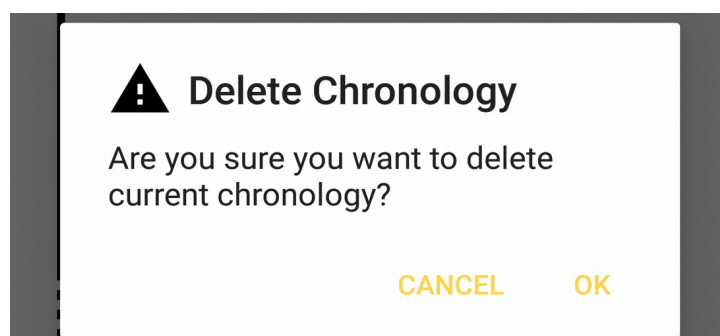
Delete current chronology

Once a user has finished with a chronology he can delete it.

1. In *Edit mode* there is a *Delete* option in the menu of the *Time Line* screen.

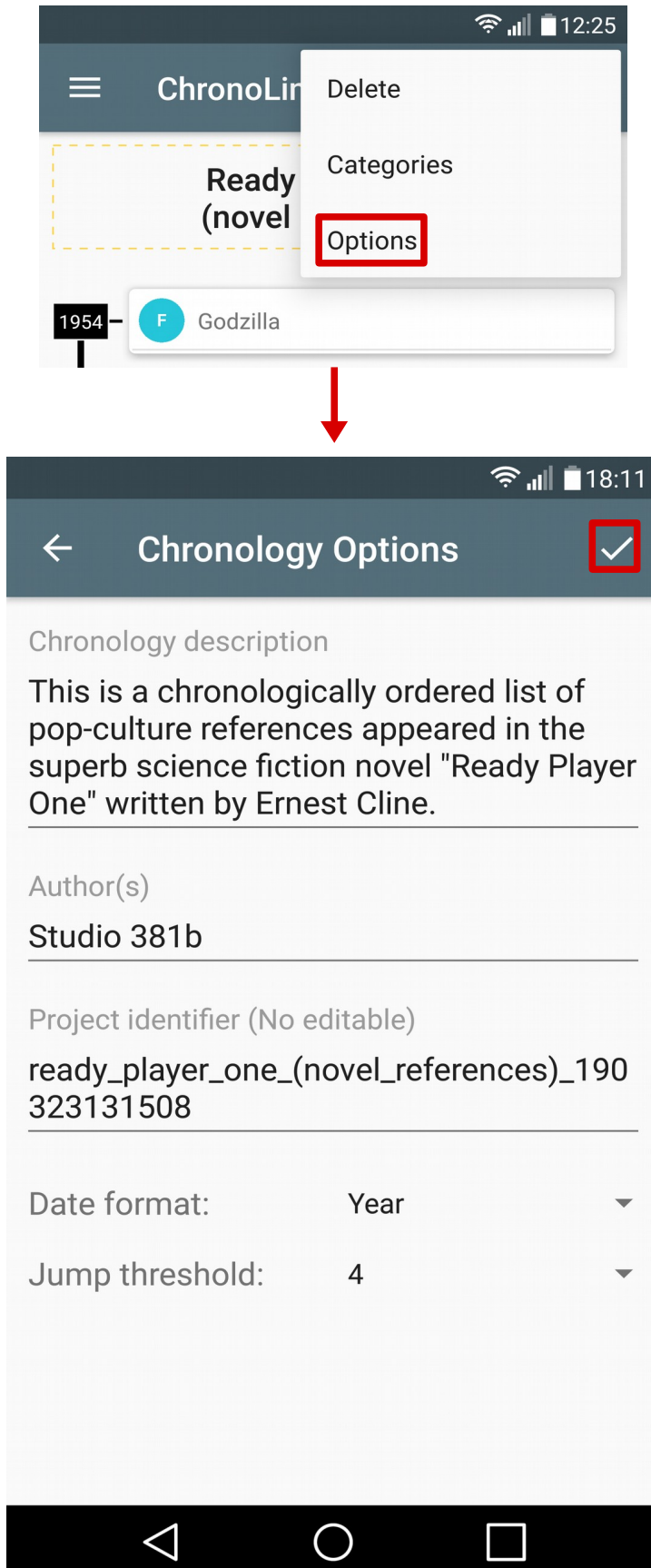


2. A confirmation dialog will be shown.



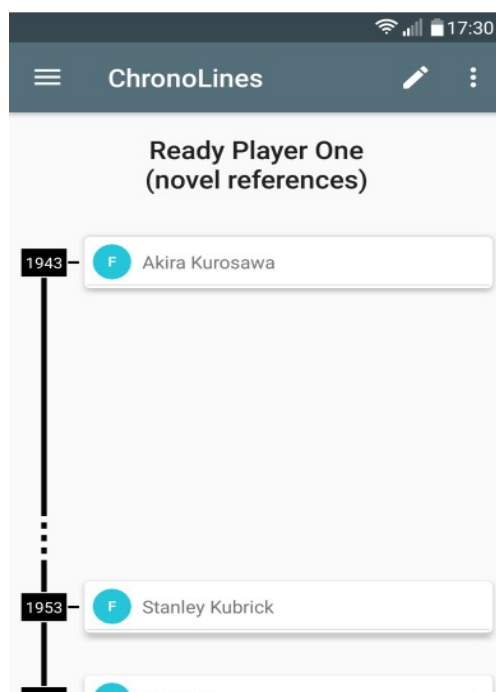
Edit chronology's options

Each chronology has several configurable parameters. In *Edit mode* there is an *Options* option in the menu of the *Time Line* screen. When the user selects this menu option, a new *Options* screen is opened and the user can edit those chronology's parameters.

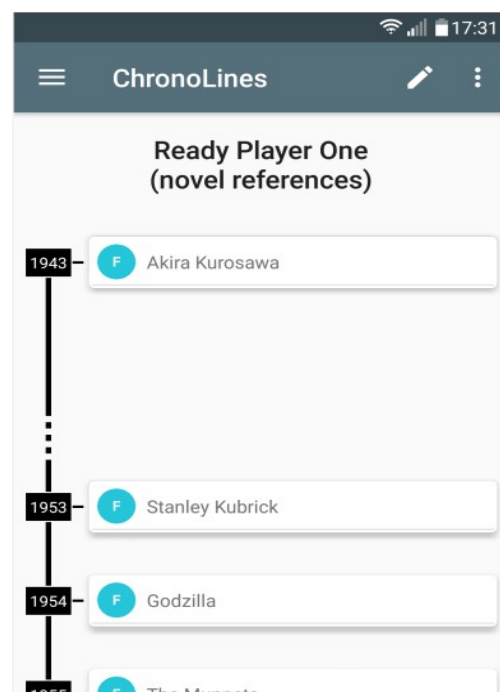


- **Description:** Short text describing the content of the chronology. The chronology's description is shown in the download dialog when a user is searching through the remote shared library, and should help the user to decide if download the chronology or not. It is also used when the chronology is shared by mail to create the body of the mail.
- **Author(s):** Names of people who have taken part in the creation of the chronology.
- **Project identifier:** Name used internally by the application to identify the project. This parameter is read-only, the user can't change its value. The project identifier is derived from the title given to the chronology when it's created, therefore the only way to change it is cloning the chronology and giving a different title. It is the name used for the file that is created when the chronology is exported.
- **Date format:** Format used for event dates. It is selected by means of a drop down list with the following options:
 - Only year (i.e: 2019): It is used when a historical chronology spreads over a long time period.
 - Year-month (i.e: 2019-07). It is used when a chronology spreads over a few years and it is necessary to detail the month of the year in which events took place.
 - Year-month-day (i.e: 2019-07-11). It is used when a chronology spreads over a short time period and it is necessary to detail the day of the year in which events took place.
 - year-era (i.e: 345 BC or 1492 AD). It is used when a historical chronology spreads over a long time period, and part of the events happened before 1 AD year.
- **Jump threshold:** Maximum number of years, months or days (depending on the selected date format) between two consecutives dates with events before a jump in the time line is inserted. A jump in the time line is represented with a dashed line. It is selected by means of a drop down list with the following options: None, 3, 4, 5.

Jump Threshold = 5



Jump Threshold = 3

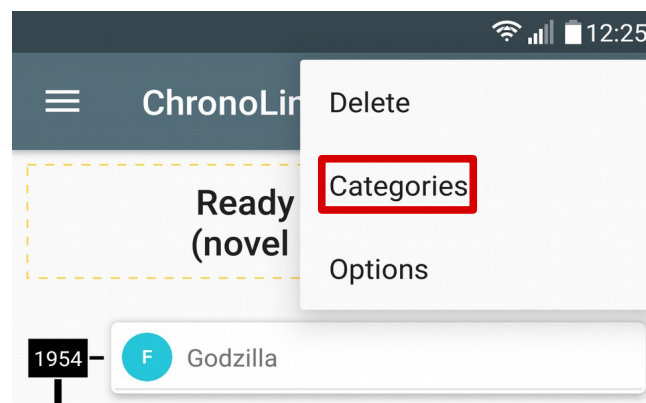


Touch on the tick button on the upper right corner of the screen to confirm the changes.

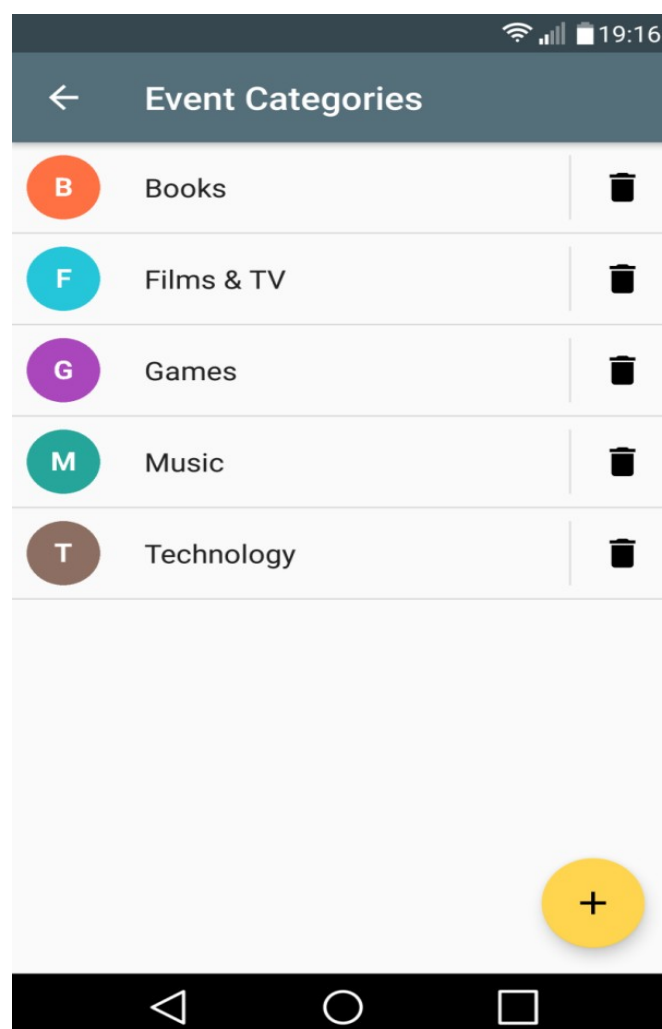
Event categories

It is very useful to classify the events of a chronology in different categories. **ChronoLines** application let the user create as many event categories as he needs, and assign each event to one category.

To manage event categories, in *Edit mode* there is a *Categories* option in the menu of the *Time Line* screen.



When the user selects the *Categories* menu option, a new screen with a list of defined categories is opened.

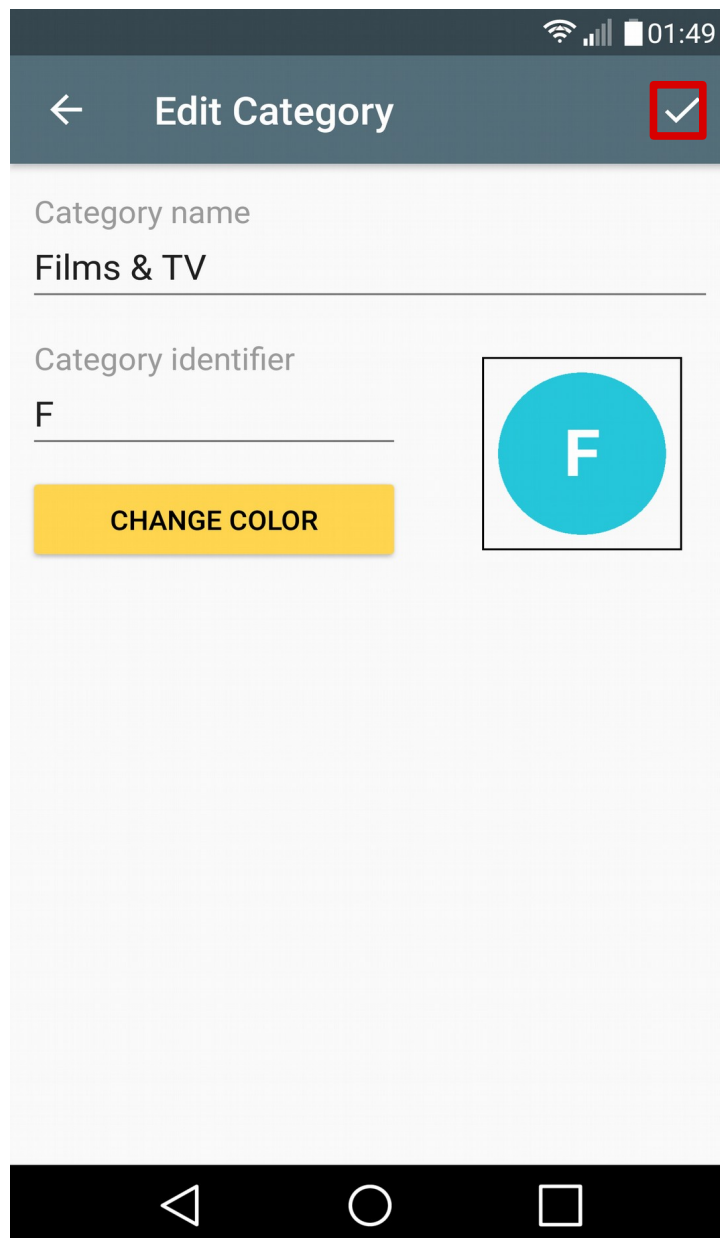


In the list view, category names are preceded by round icons. These icons are drawn taking into account that each category has associated a color, and some letters used as category identifier.

If the user touch on the trash can icon at the right of a category name the category will be deleted (a confirmation dialog will be shown).

There is also a floating button on the botton right corner of the screen to add new event categories.

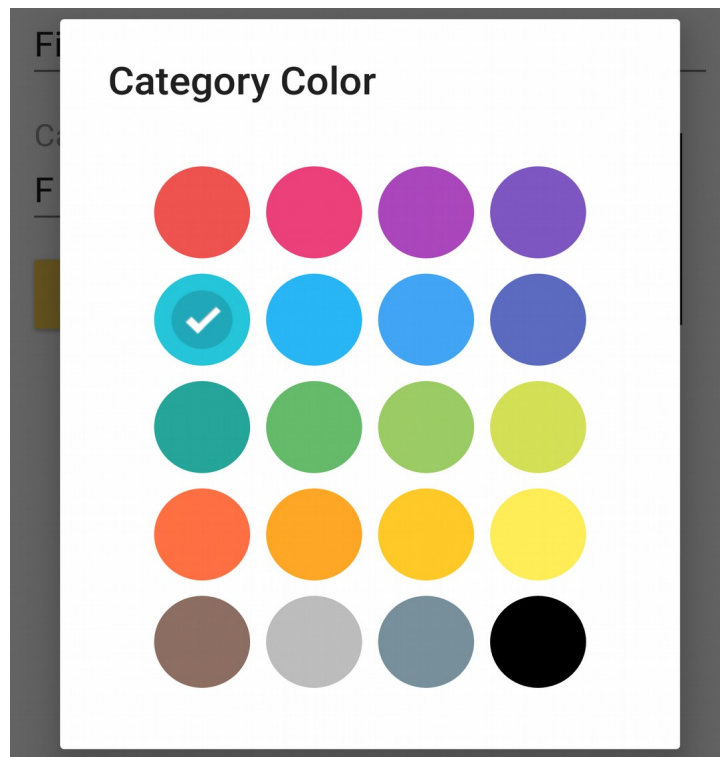
To edit the parameters that define an existing category, touch on that category and follow the steps below:



1. Enter a name for the category.
2. Enter up to two letters used as category identifier. On the right side there is a preview of the category's icon. The identifier letters are printed at the center of the icon.
3. Touch on the "*CHANGE COLOR*" button. A new dialog to select among several colors is opened (see below). Touch on the desired color for the category. On the right side there is a preview of the category's icon. The shape of the icon is a circle drawn

using the selected color.

4. Touch on the tick button on the upper right corner of the screen to confirm the changes in the category's parameters.

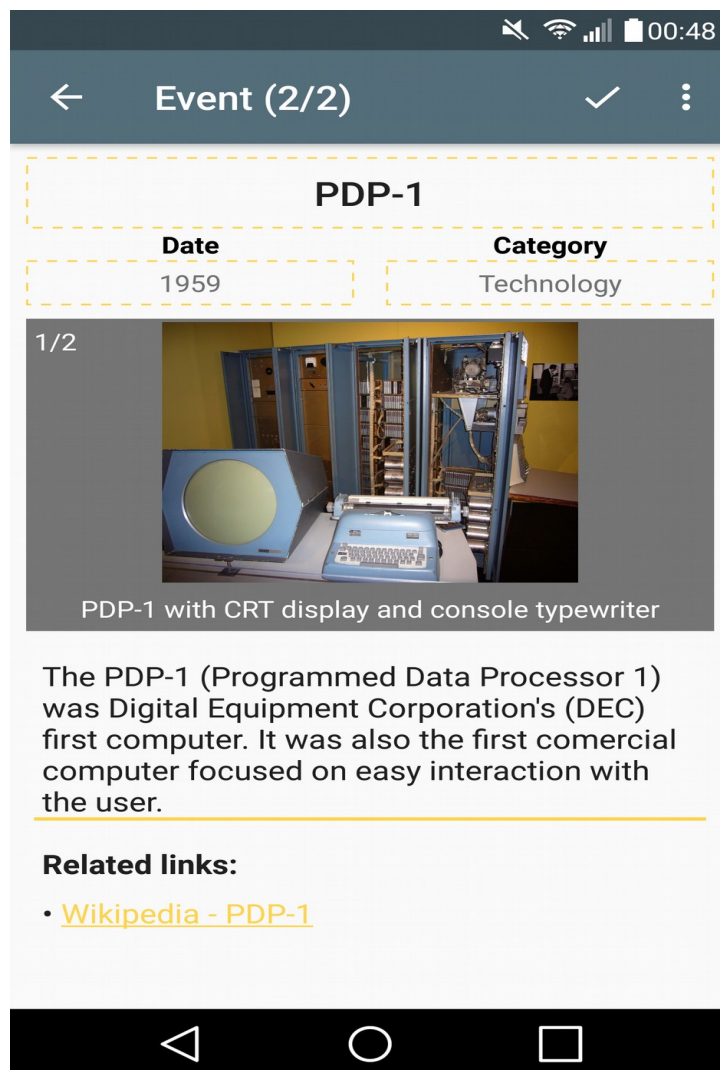


Once the categories are defined, the events can be associated with categories and it's possible to filter by categories the events shown in the *Time Line* screen (see the chapter dedicated to time line and events).

Manage events

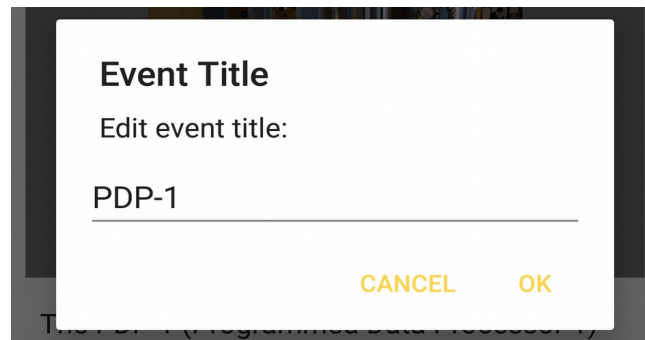
A chronology is basically a chronologically ordered list of events. In **ChronoLines** each event has the following information associated:

- The title that indentifies the event.
- The date of the event (format can change as stated before).
- The category of the event, selected from a list of user defined categories (see the chapter dedicated to event categories).
- A long text description of the event.
- Optionally, one or more images. These images are shown in a slideshow with their corresponding foot notes.
- Optionally, one o more links to on-line resources. These links are shown as a list below the event description.



In *Edit mode* all these items are editable. The title, date and category are displayed with a dash line around them indicating that the user can touch on that area.

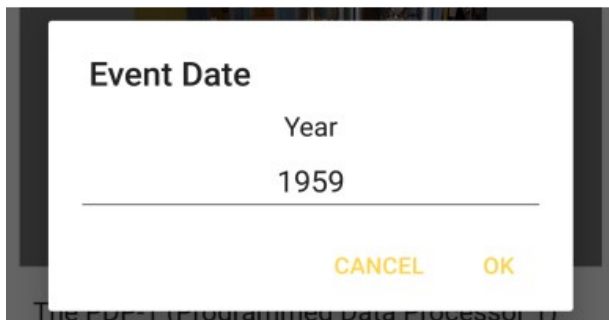
When the user touch on the event title a dialog to edit the corresponding text is opened.



The screenshot shows a white dialog box with a dark border. At the top, it is titled "Event Title". Below the title, it says "Edit event title:". There is a text input field containing "PDP-1". At the bottom right, there are two buttons: "CANCEL" and "OK", both in yellow text.

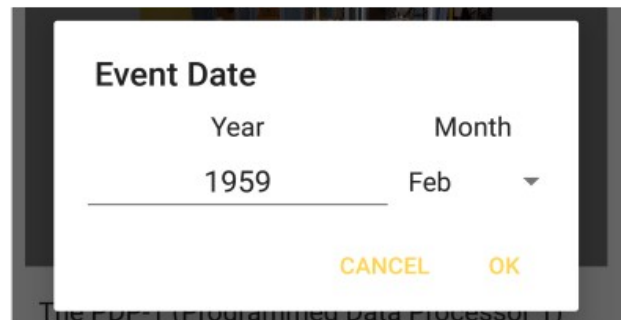
When the user touch on the event date a dialog to change the date is opened. The editable fields of this dialog change depending on the date format used by the chronology.

Only year



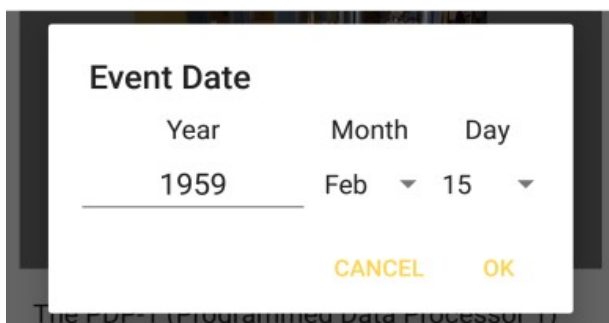
The screenshot shows a white dialog box titled "Event Date". It has a label "Year" above a text input field containing "1959". At the bottom right, there are two buttons: "CANCEL" and "OK", both in yellow text.

Year - Month



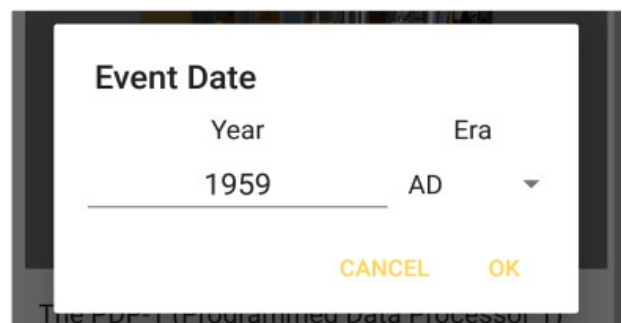
The screenshot shows a white dialog box titled "Event Date". It has two labels: "Year" above a text input field containing "1959", and "Month" above a dropdown menu showing "Feb". At the bottom right, there are two buttons: "CANCEL" and "OK", both in yellow text.

Year - Month - Day



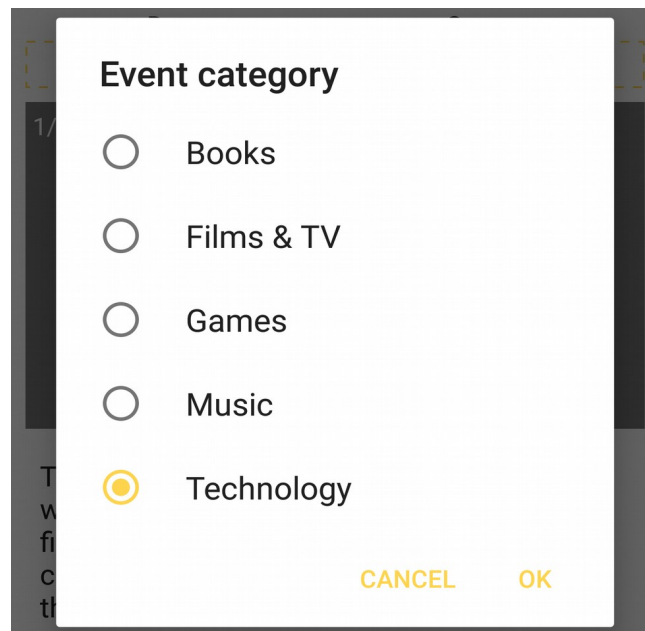
The screenshot shows a white dialog box titled "Event Date". It has three labels: "Year" above a text input field containing "1959", "Month" above a dropdown menu showing "Feb", and "Day" above a dropdown menu showing "15". At the bottom right, there are two buttons: "CANCEL" and "OK", both in yellow text.

Year - Era



The screenshot shows a white dialog box titled "Event Date". It has two labels: "Year" above a text input field containing "1959", and "Era" above a dropdown menu showing "AD". At the bottom right, there are two buttons: "CANCEL" and "OK", both in yellow text.

When the user touch on the event category a dialog to select a new category is opened.



The event long description can be changed directly in the *Event* screen. When the user touch on the event description the keyboard is shown and the text can be edited.

Images associated to events are shown in a slideshow located just above the event description. The user can slide forward and backward through images. On the upper left corner of the slideshow there is a label that shows the index of the current image an the total number of images associated to the event. Below the image is the footer text. If the user long press over a image the application zoom in the slideshow to occupy all the screen.



In full screen mode, image can be rotated and, in addition to the image footer, attribution information for the original image is displayed. This attribution information can include a link to the URL of the original image, the name of the author and the license under which the image was released. Depending on the license used, it can be

mandatory to include the attribution information. Whenever possible the user should use license free images (public domain) or images released under *Creative Commons* licenses (or similar). In some cases, the use of low-resolution copies of copyrighted materials with education and identification purposes can be considered *fair use*.

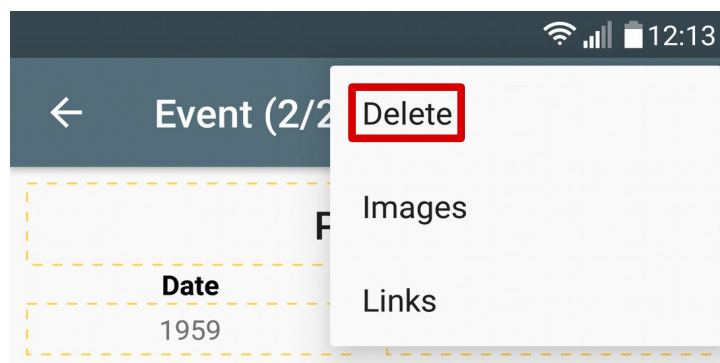
To know how to add images to an event or delete them see the chapter dedicated to event images management.

Links to on-line resources associated to events are shown in a bulleted list located just below the event description (and titled "*Related links*"). The user can touch on one link of the list to open the corresponding URL in a web browser.

To know how to add links to an event or delete them see the chapter dedicated to event links management.

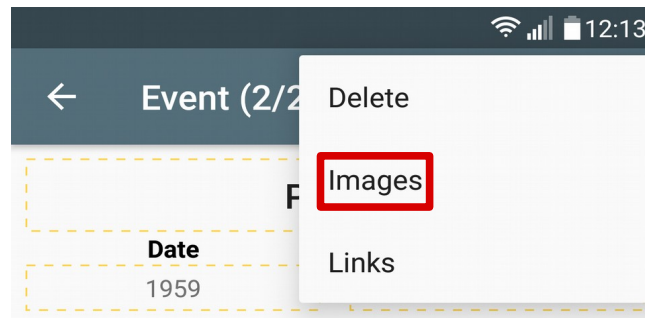
New events are added to a chronology using a floating button available on the bottom right corner of the *Time Line* screen.

In *Edit mode* there is a *Delete* option in the menu of the *Event* screen that let the user delete an existing event.

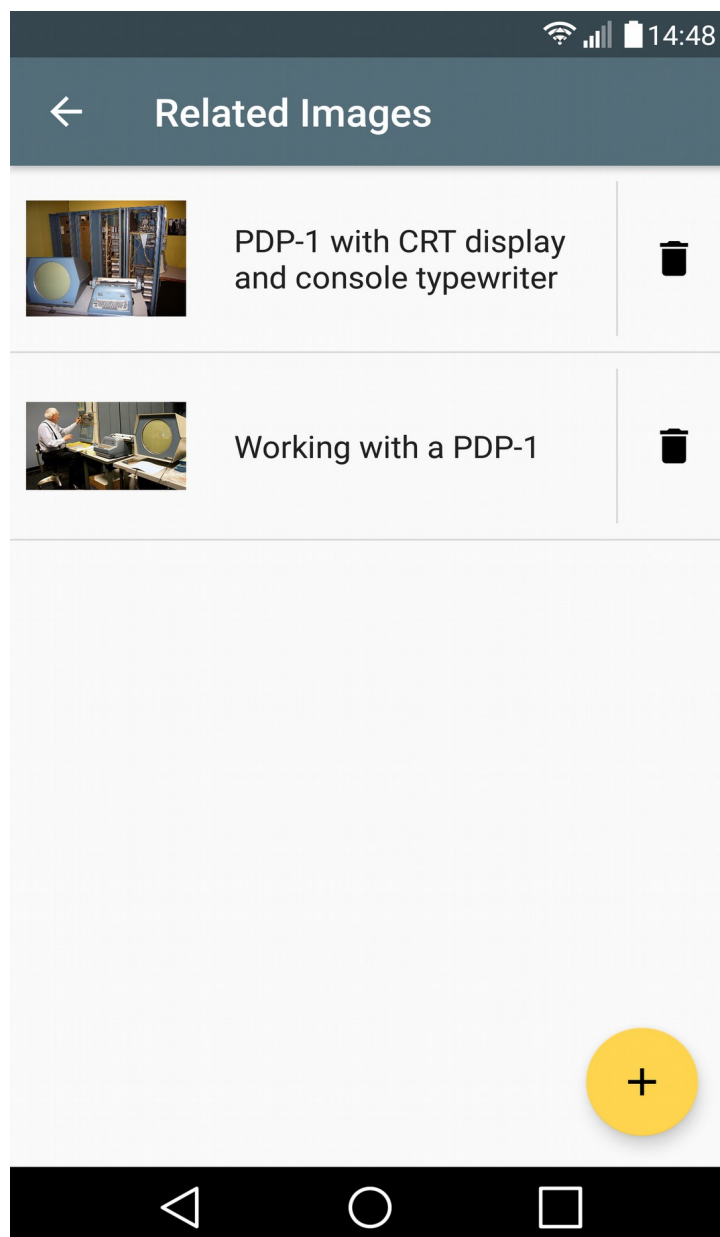


Images associated to an event

In *Edit mode* there is an *Images* option in the menu of the *Event* screen that let the user manage images associated to that event.



When the user selects the *Images* menu option, a new screen with a list of images is opened.

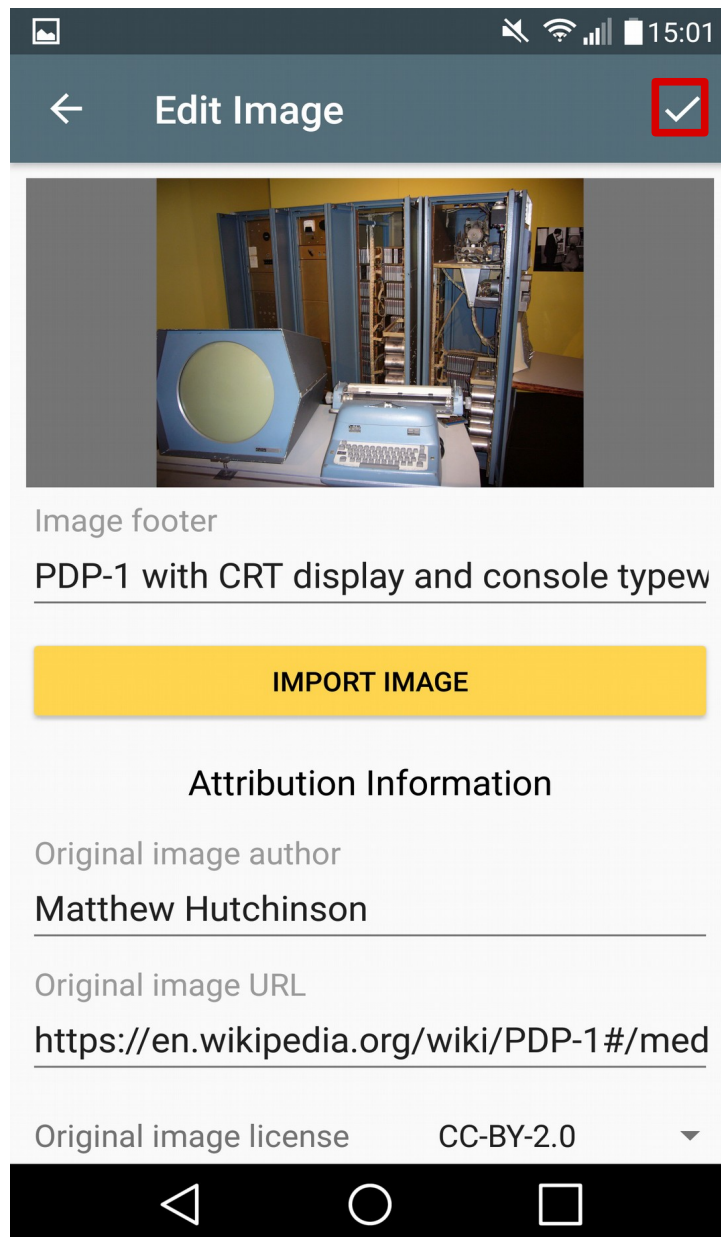


In the list view, image names are preceded by small image previews so the user can identify each image easily.

If the user touch on the trash can icon at the right of an image name the image will be deleted (a confirmation dialog will be shown).

There is also a floating button on the botton right corner of the screen to add new images.

To edit the parameters that define an existing image, touch on that image and follow the steps below:

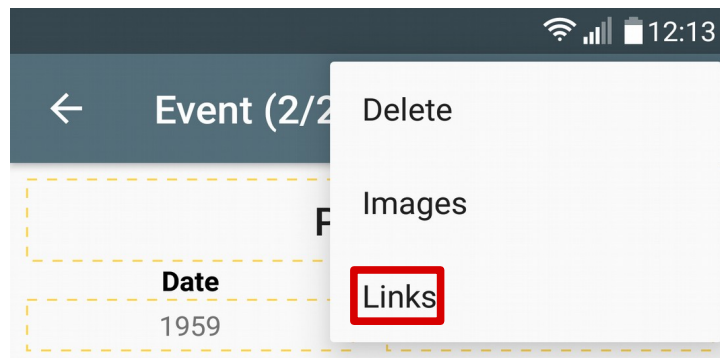


1. Touch on the "*IMPORT IMAGE*" button.
2. A file picker will be opened. The user can select an image file from the local file system or from any other document provider such as Google drive.
3. The image will be added to the content of the chronology and it will appear at the image viewer on the top of the screen.
4. Enter the text to be shown in the image footer.

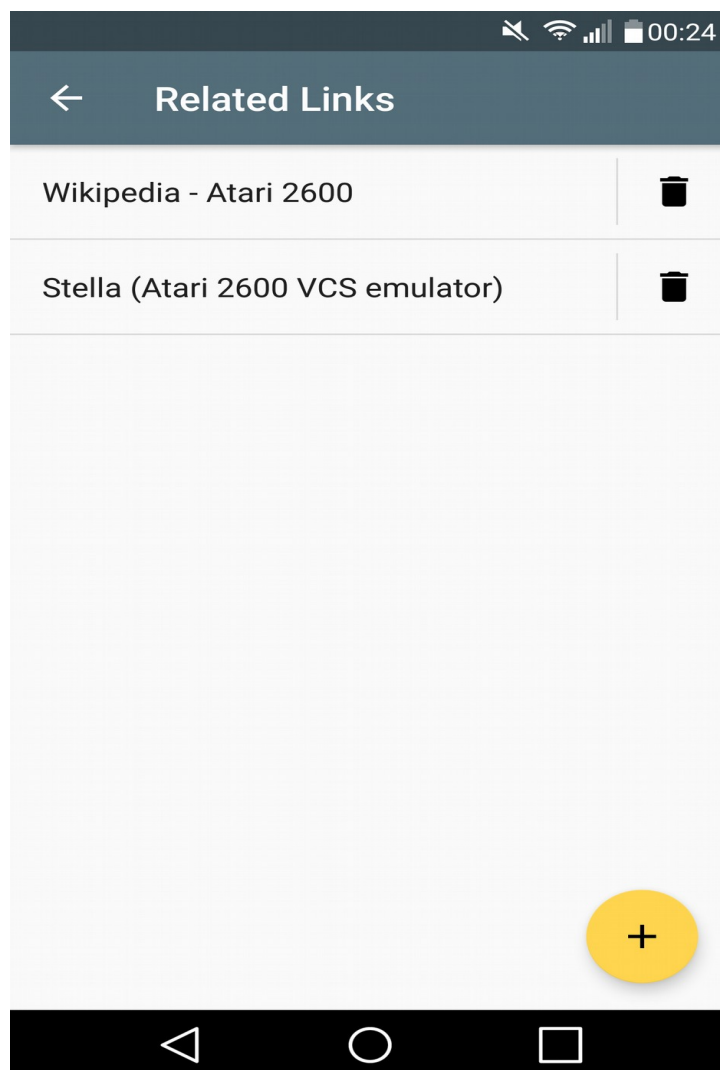
5. Enter the name of the original image author (if known) to be shown as attribution information. Depending on the original image license this parameter can be mandatory. The author's name can be a person name, a nickname or a company name.
6. Enter the URL of the original image (if known) to be shown as attribution information. Depending on the original image license this parameter can be mandatory.
7. Select the license of the original image (if known) using a drop down list with the following options:
 - Unknown.
 - CC0-1.0: <https://creativecommons.org/publicdomain/zero/1.0/deed.en>
 - CC-BY-1.0: <https://creativecommons.org/licenses/by/1.0/>
 - CC-BY-2.0: <https://creativecommons.org/licenses/by/2.0/>
 - CC-BY-2.5: <https://creativecommons.org/licenses/by/2.5/>
 - CC-BY-3.0: <https://creativecommons.org/licenses/by/3.0/>
 - CC-BY-4.0: <https://creativecommons.org/licenses/by/4.0/>
 - CC-BY-SA-1.0: <https://creativecommons.org/licenses/by-sa/1.0/>
 - CC-BY-SA-2.0: <https://creativecommons.org/licenses/by-sa/2.0/>
 - CC-BY-SA-2.5: <https://creativecommons.org/licenses/by-sa/2.5/>
 - CC-BY-SA-3.0: <https://creativecommons.org/licenses/by-sa/3.0/>
 - CC-BY-SA-4.0: <https://creativecommons.org/licenses/by-sa/4.0/>
 - Public Domain: https://en.wikipedia.org/wiki/Public_domain
 - GFDL: <http://www.gnu.org/copyleft/fdl.html>
 - FAL: <http://artlibre.org/licence/lal/en/>
8. Touch on the tick button on the upper right corner of the screen to confirm the changes in the image's parameters.

Links associated to an event

In *Edit mode* there is a *Links* option in the menu of the *Event* screen that let the user manage links associated to that event.



When the user selects the *Links* menu option, a new screen with a list of links is opened.



If the user touch on the trash can icon at the right of a link text the link will be deleted (a confirmation dialog will be shown).

There is also a floating button on the bottom right corner of the screen to add new links.

To edit the parameters that define an existing link, touch on that link and follow the steps below:



Link text

Stella (Atari 2600 VCS emulator)

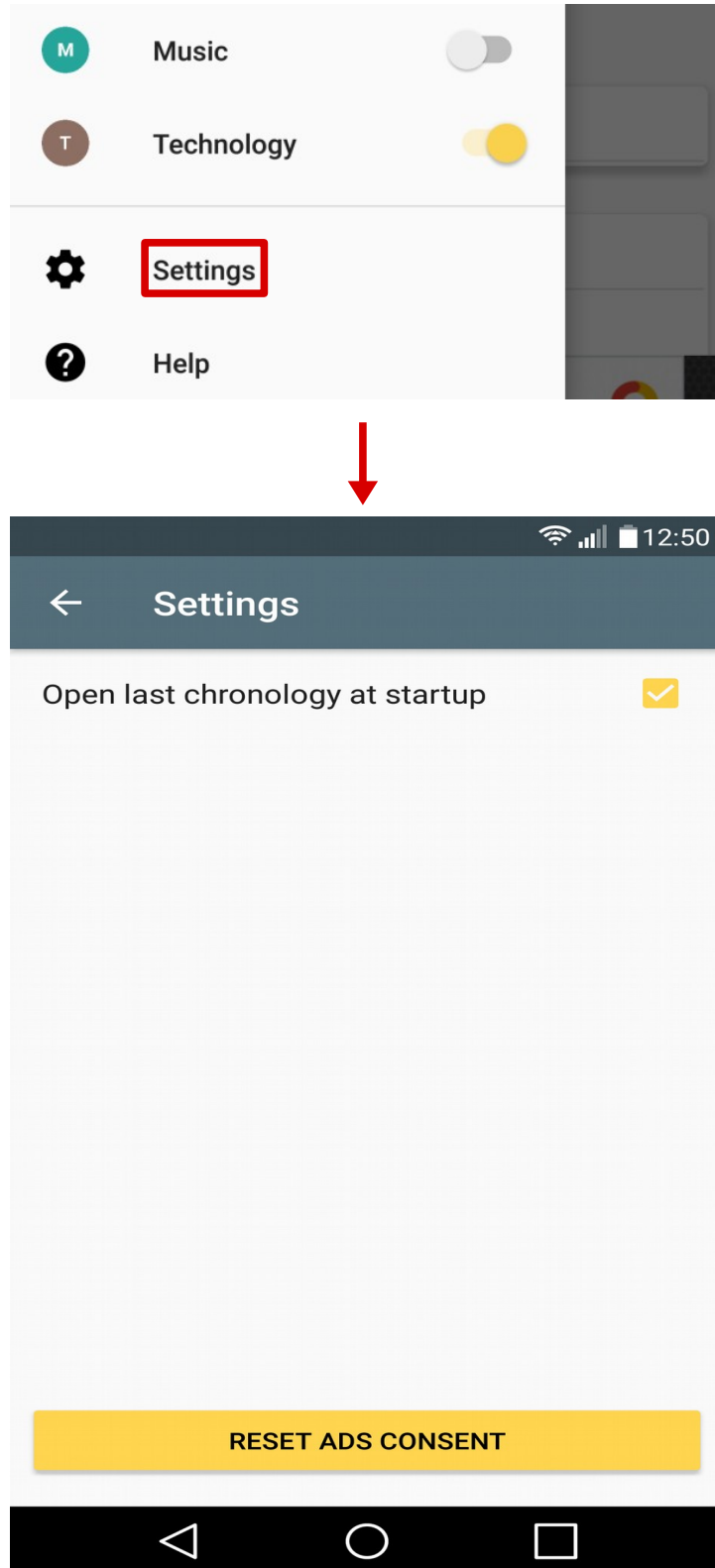
Link URL

<https://stella-emu.github.io/>

1. Enter some text that helps users identify the linked external resource. This text appears in a bulleted list below the event description.
2. Enter the URL of the linked external resource.
3. Touch on the tick button on the upper right corner of the screen to confirm the changes in the link's parameters.

Application's settings

ChronoLines application has some user preferences not related to any specific chronology but with the general use of the app. The *Application's Settings* screen is accessible using a menu option available on the left side panel.



The user can define the value of the following preferences:

- *Open last chronology at startup*: If true, each time the application is started it automatically opens the same chronology the user was viewing last time he used the app.

On the bottom of the screen there is a "*RESET ADS CONSENT*" button. **ChronoLines** uses advertisements to monetize development efforts. Specifically it uses Google AdMob service to show users relevant advertisements based on their profiles. To provide the service, Google AdMob uses technologies like "cookies". Depending on the countries, there are laws like GDPR (General Data Protection Regulation) that force to ask users a clear and explicit consent when this kind of technologies are used to show personalized advertisements. Once collected, this consent must be documented, and the data subject is allowed to withdraw his consent at any moment.

ChronoLines application asks users consent for personalized advertisements the first time it is executed (see consent dialog below). After that, if a user wants to withdraw his consent he can browse to the *Application's Settings* screen and touch on the "*RESET ADS CONSENT*" button. Next time the user enters Time Line screen the consent dialog will be shown again.

