

WikiFundi V2.1 on Raspberry PI 3 User Guide

WikiFundi is a software environment that allows participants to create collaborative articles, like Wikipedia or Vikidia, without Internet access.

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1. Overview

1.1. What is WikiFundi

WikiFundi is a software environment that creates articles in collaborative mode without internet access. It is hosted on a offline Raspberry Pi local network that also hosts a series of training and information sources, offline Wikipedia, Wikitionary, Wikiquote and Wiki Source.

Primarily, WikiFundi is used to facilitate the creation of Wikipedia articles without access to the internet. It is possible to create and then work on these articles if you are within range of a server hosting WikiFundi, to which you will connect via WiFi. The environment of WikiFundi mimics to the maximum the environment of Wikipedia! This means that the writing of the texts can be done by several hands, easily identifying who wrote what part of the text.

Once the article is finished, you can copy / paste it into the online version of Wikipedia. Your contribution will then be visible to all. Naturally, you have to be connected to the internet to transfer the article to Wikipedia!

WikiFundi can also be used to create articles intended to be published on other websites based on wikis. This is the case of Vikidia, the encyclopedia dedicated to 8-13 year olds. Finally, it is also possible to use WikiFundi to simply write texts with several hands, stories, poems or reports.

To learn more about WikiFundi: http://www.wikifundi.org

1.2. What is included in release WikiFundi V2.1?

WikiFundi can mean two things.

The standard version of WikiFundi include the software that allows to create and modify pages "as if on Wikipedia" as well as various training resources curated by our team. In 2021, the software is available in English, French and Spanish. Resources are proposed as part of the WikiFundi are in those three languages as well, and may be accessed online: https://meta.wikimedia.org/wiki/WikiAfrica_Offline_Resources/en

You may download the standard package at : https://meta.wikimedia.org/wiki/WikiFundi The standard package fits onto a 25 GB SD card.

But WikiFundi may also be downloaded with many useful offline resources to form a more complete package. Those resources may include for example

- * Wikipedia: the content of the famous online encyclopedia
- * Vikidia: the content of the encyclopedia for 8-15 years old
- * Wikiquote: the content of the quotation-based website
- * Wikisource: the content of the free library
- * Wiktionnaire: the content of the free dictionnary
- * WikiMed: the content of the medical encyclopedia
- * WikiMooc: videos of the Wikimedia France mooc
- * and many many more offline resources

The more ressources you add to your choice, the larger the SD will need to be (128-200 GB for example).



We have prepared for you several options of packages. But it is entirely possible to prepare a customized package. Contact us to get customized packages with content in your favorite language and according to your own needs

Contact and packages available for download are at https://meta.wikimedia.org/wiki/WikiFundi.

To access the code and report issues: https://github.com/openzim/wikifundi

1.3. How to access WikiFundi



WikiFundi is an application that requires a **server** to function. It cannot be downloaded and simply installed on a personal computer.

It is suggested that you use a nano-server, called a Raspberry PI. A raspberry PI is a small, lightweight, portable and inexpensive server.

The WikiFundi application is installed on a mini SD card, which is then dragged onto the Raspberry.

First step, you will need to download the "image" of the software (see previous section or visit this link to download: https://meta.wikimedia.org/wiki/WikiFundi). Be aware that the image may be quite large (25 GB for the standard version and possibly up to 200 GB if you chose to add many resources on top of the software).

Then save the downloaded image on a harddrive.

Once the image is downloaded, you will need to flash the SD card, a process allowing the full installation of the operating system as well as the wikifundi software on the card. Several softwares may be used to flash the SD card (such as balenaEtcher https://www.balena.io/etcher/).

Then insert the SD card in the server, supply power to the server (via the power grid, or an external battery etc.), and then turn on the Raspberry for the application to become accessible via a WiFi network called WikiFundi.

Obviously, not everyone has a Raspberry PI server. However, it is possible to access WikiFundi on Raspberry PI via three different channels.

There are 3 main ways to access and use WikiFundi

1) Via the Wiki in Africa association.

WikiFundi is available on Raspberry servers distributed by the association "Wiki in Africa". Each pack contains a nano-server, the WikiFundi application and multiple resources.

These WikiPacks are

* provided to Wikimedia user associations and groups (such as Wikimedia Côte d'Ivoire, Wikimedia Cameroon etc.). The WikiPacks are used during training sessions at Wikipedia when writing on wikis, or during group writing sessions when there is no internet connection or when the connection is too slow or too expensive. WikiPacks may be provided for free (when the association has the funding...)

* or may be directly purchased to the Wiki in Africa association.

See http://www.wikifundi.org for more information.

2) Via download

For the more adventurous, the software is available for download, with installation instructions on https://meta.wikimedia.org/wiki/WikiFundi

It should be noted, however, that installation is not straightforward and should only be considered with the help of a person who has good technical computer skills.

You will need to get a Raspberry PI (online puurchase etc.)

3) Via Fondation Orange

From 2017 onwards, the WikiFundi platform is available to Raspberry kit users who are part of the Orange Foundation Digital Schools Program in FRENCH.

To access the application directly from the homepage of the Orange Foundation's educational servers, click on the WikiFundi button.

The Orange Foundation kits are distributed to more than 300 schools across Africa.

More partnerships are envisionned in 2022 so we hope WikiFundi will be more widely available on other plateforms. Stay tuned on http://www.wikifundi.org.

2. How to launch WikiFundi on Raspberry PI 3.

2.1. What is a Raspberry PI 3?

The **Raspberry Pi** is a series of small single-board computers. The computer, which is the size of a credit card, is used to promote the teaching of basic computer science in schools and in developing countries. It can operate with several GNU/Linux and OS distributions and can run several applications.

The first generation of Raspberry PI was released in 2012 and sold for about 25 €. The latest generation, the Raspberry PI 3, was released in 2016 and sells for slightly more than 38 €. Computers are distributed by the Raspberry PI Foundation. According to the Raspberry Pi Foundation, over 12.5 million Raspberry Pis had been sold by its 5th birthday.

The Raspberry Pi hardware has evolved through several versions that feature variations in memory capacity and peripheral-device support. It has multiple components for computer-based projects, such as USB ports, an ethernet port, an SD card slot, WiFi antenna ports, and more. It is provided without protective case, keyboard, mouse, monitor or cables in order to reduce costs and allow reuse of other peripherals.



The motherboard of the Raspberry PI 3 B Model. Author Jose.gil. CC by sa 4.0

Minimum requirements to operate the Raspberry Pi:

- An SD card or micro-SD card to host the operating system, software etc.
- Power supply. You will need a 5V micro-USB power supply, batteries or a power pack.

A mouse, monitor or keyboard are not mandatory to operate the Raspberry PI. The Raspberry can be controlled at a distance via a network. However, it is recommended that you add accessories, such as the case to protect the motherboard, to improve the quality of use.



The black protective case of the Raspberry Pi 3. Top: the fully set-up case. Bottom: the different elements of the case. Author: Jose.gil. CC by sa 4.0

2.2. Launching the WikiFundi application



How-to videos on WikiFundi (including first steps set up) are available on the YouTube channel of the Wiki in Africa association : https://tinyurl.com/y7lm7d45

Step 1: gather all the components you will need

The different elements included in a Wikipack are:

- the Raspberry PI 3 (motherboard + case, arrives assembled).
- a mini SD card with the operating system as well as WikiFundi (and other resources).
- power supply cables (used to power the server. The cables can be plugged into a regular electricity network, an external battery or power pack).





Step 2: insert the SD card into the dedicated slot





Viewed from the back and front. Handle the card with care and be mindful not to insert it the wrong way round.





On the left, the card is not yet fully inserted. Push until the card is properly inserted, as in the image on the right.

Step 3: power the Raspberry Pi



Step 4: Wait for the Raspberry Pi to power up (1 to 2 minutes)



On startup, the green light will flicker (left). Once the green light goes off (on the right), the server is properly launched. The red light indicates that the server is powered up.

Step 5 : connect to the WikiFundi network

As soon as the Raspberry Pi is launched, the user can access to the application by connecting to the WiFi network called WikiFundi (from his desktop, laptop, tablet or cellphone).



WARNING: Normally, to launch WikiFundi, you simply need to connect yourself to the *WikiFundi* wifi then to open a new window on your favorite browser. Warning: the wifi network to use is *WikiFundi*. If you have already used on your computer the first version of WikiFundi (V1, released in 2017), it may happen that

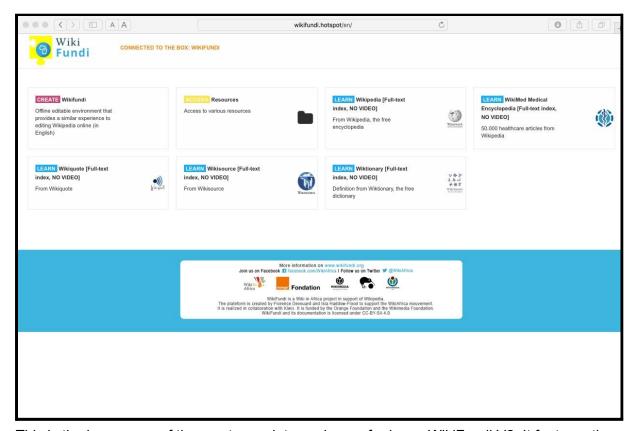
your computer remembers that former network. The former V1 network is WIKIFUNDI (capital

letters). You may see two wifi networks... in this case, the network you must select to access V2 version is *WikiFundi*.

It may happen that the WikiFundi application does not launch automatically when you open a new window in your browser. If you can not find the application anymore, go the opened window and type *wikifundi.hotspot* in the url area.

Once connected to the WiFi network, the WikiFundi home page will appear.

Step 6: access the software from the homepage



This is the homepage of the most complete package of release WikiFundi V2. It features the software but also various "offline" resource. The homepage of WikiFundi V2.1 is similar.

Click on the WikiFundi folder to access the software environment and start editing.

2. Create an account / Login to an existing account



Home page of WikiFundi software

What are the next steps? Here is what you absolutely need to know...

2.1. Accounts are mandatory



On Wikipedia, on Vikidia, and on most public wikis, it is possible to read content as well as edit content without have to register an account or without being logged in to that account. On Wikipedia, this is what we call "contributing under ip" as contributions are attributed to your ip address.

On WikiFundi, it is MANDATORY to have an account and MANDATORY to be logged in when creating or modifying articles.



The system does not give you an alert warning if you are not identified. You will only notice that creation or modification of articles does not work.

A **logged-in user** is a user who has created an account on WikiFundi and who has connected to the account using his login (the "username") and a password.

When you first access the platform, you can:

- either use the administrator account, which already exists by default on the platform or
 - create a brand new personal user account

We recommend that you:

- 1. create a brand new user account
- 2. then disconnect
- 3. Then log in to the administrator account and give your new user account administrative rights (see the dedicated section below for more support).

Do not hesitate to create as many accounts as there are users in your community (one person = one account) (administrators or not).



The difference between an administrator account and a regular account is the availability of some practical tools. An administrator may:

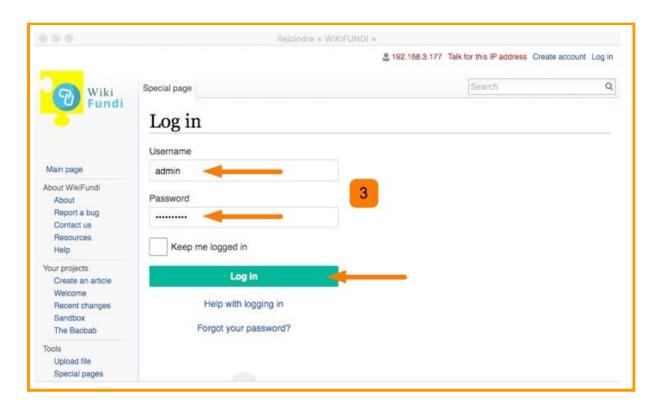
- 1. delete an article
- 2. protect an article (restrict the rights of modification)
- 3. block another user

Please note: all administrator actions may be reverted by another administrator.

2.2. How to log in to the administrator account



2 To connect to the administrator account, click on the "Log in" link top right



3 The Log in details / access information of the administrator account are:

Username: admin

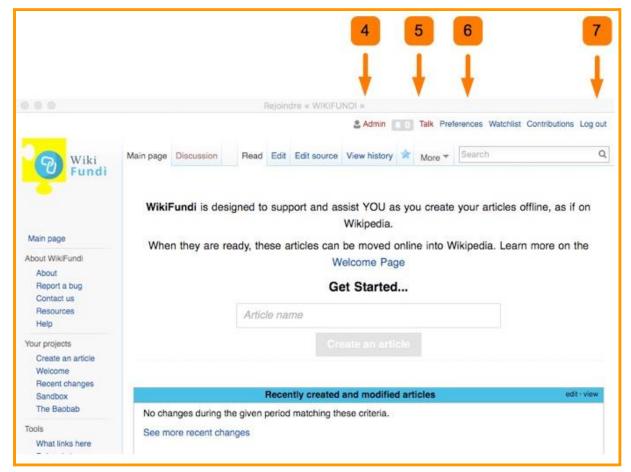
Password: adminadmin

You may modify the access information (i.e. username and password) of the administrator account. **But we advise you NOT to do that.** Accounts are not associated to any email address on WikiFundi. If you change the password and later forget it, there is NO OPTION to retrieve it. No one will be able to retrieve access to this account.

For this reason, we highly recommend that you do NOT change the password of the administrator account, but rather create and use your own administrator account (the user account created as per above and granted administrator privileges when you first access the WikiFundi platform). We also advise that several people be given an administrator account. If you are a small community, we advise you to give everyone an administrator account (with one person = one account).

Side note: if you see a red warning message mentioning an issue with "cookies", log out. In general, this problem is fixed when you log-in a second time.

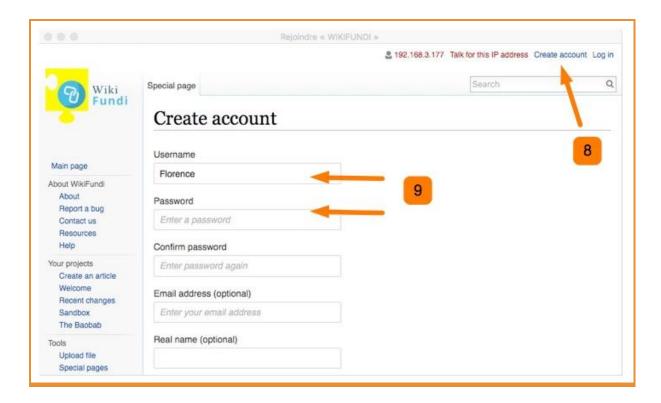
2.3. Account parameters



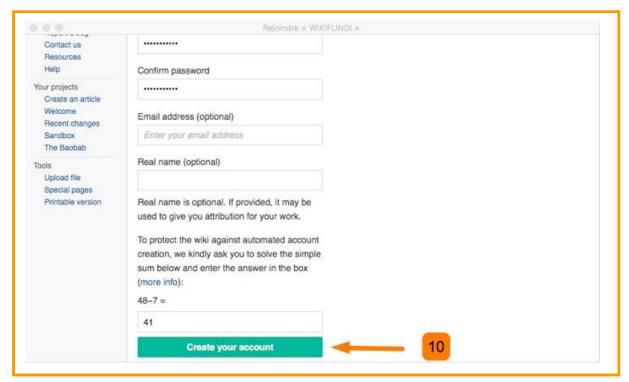
- 4 Click the top center link "Admin" to access the UserPage of the administrator. By default, the page does not exist and the link thus appears in red. As soon as the page has been created, the link will appear in blue. You may add whatever you deem appropriate to this page. For example, you may indicate the name of the person who will run the admin account.
- A "TalkPage is associated to any user account. The TalkPage is accessible immediately on the right of the UserPage ("Talk"). Talk pages allow easier communication between users (thanks to a notification system).
- 6 Modify the account preferences from the "Preferences" section.
- 7 Click on "Log out" to disconnect from the "Admin" account.

2.4. How to create a new account

8 To create a new User account, click on "Create account" (top right).



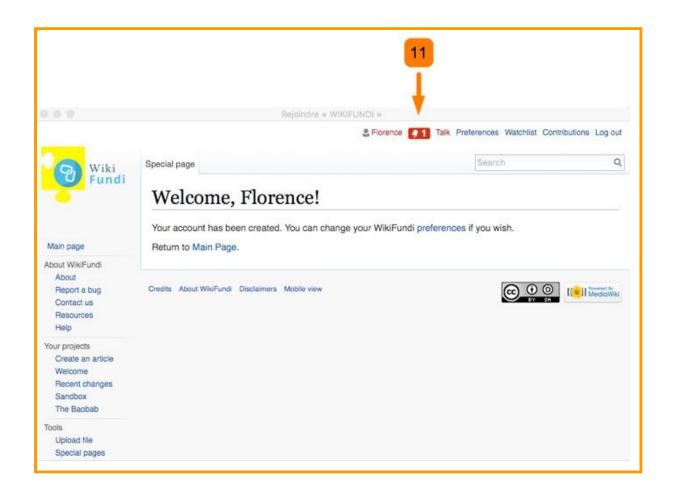
9 Indicate a Username, as well as a password. It is not mandatory to add your real name. Then save.



10 Do not forget to answer the anti-spam question.

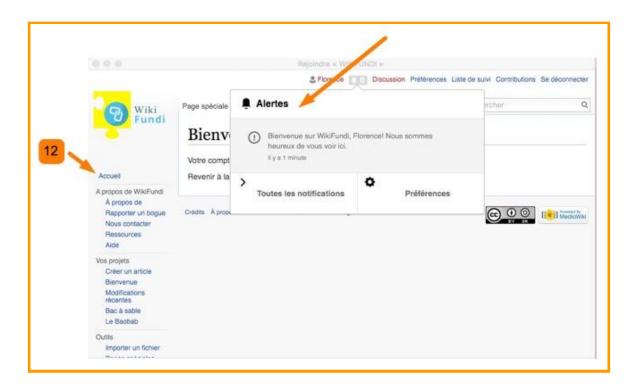


User accounts are not associated with an email address. If you forget the password, there is NO way to retrieve the password. Please remember / make a note of the password you used. In this case, the account created was for the username "Florence"

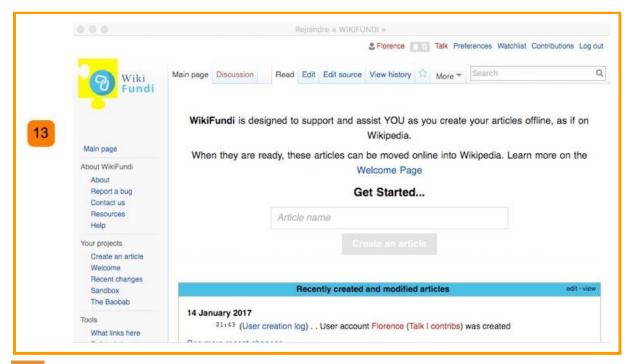


11 The new user account "Florence" was created. For the administrator account, you have a page to present yourself (visible to everyone), a page for discussion (visible to everyone), a list of your contributions (visible to everyone), a list of your favorite articles (private) and a collection of tools and various settings.

When you create your account, a notification will welcome you. Click the notification to access the message. You will also receive notifications in other circumstances, for example: when another user leaves a message on your discussion page.



12 To access the home page, click on the link at the top left of the menu OR click directly on the WikiFundi logo.



13 You are back on the homepage. You can verify that you are logged in at the top of the page (here, under the username "Florence"), at any time.

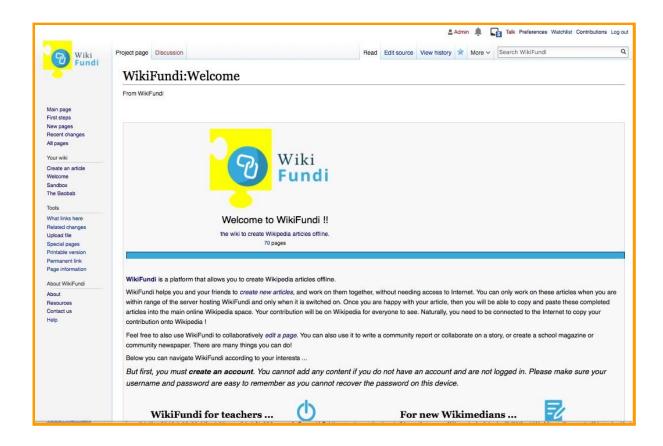
3. Access resources

The WikiFundi at your disposal contains about 50 pages. To access the pages, click on the words appearing in blue, in the left menu or in the center of the screen. WikiFundi contains navigation pages, syntax help pages, examples of "good" Wikipedia articles etc.



The "Resources" page gives you access to a whole range of resources in the form of images, videos or pdf documents. Click on the resources (visuals or links) to access the documents.

The welcome screen is accessible directly from the menu on the left. It gives access to help pages, contacts, project discovery, and several good quality articles to serve as a "template".











To explore further: WikiFundi is a wiki. This means that all the pages may be modified and even deleted. And WikiFundi is YOUR wiki. Do not hesitate to adapt it to your own situation and needs.

4. Create and modify articles

There are two ways to create a new article on WikiFundi:

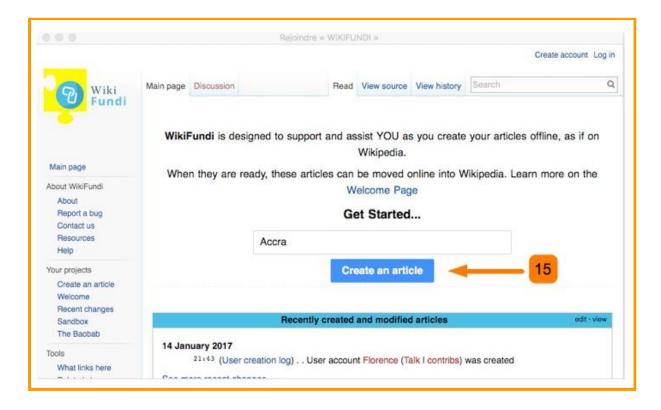
- 1) Directly from the welcome page of the application
- 2) Or by clicking on a "red link".

In this section we will explain how to do that.

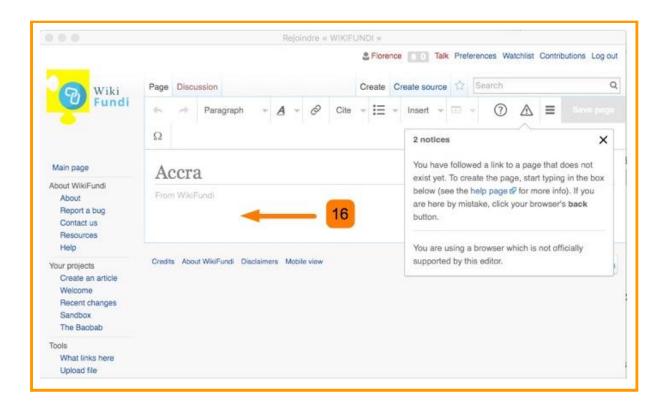
4.1. How to create a new article from the home page

The WikiFundi home page has been designed to be as simple and intuitive as possible. In addition to a very brief introduction, this home page has only two features:

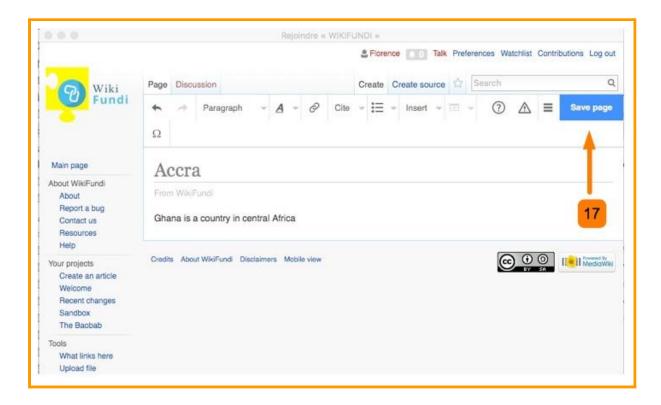
- 1) Create a new page (at the top of the homepage) and
- 2) displays a record (log) of all the actions performed on the platform (in the lower part of the homepage).



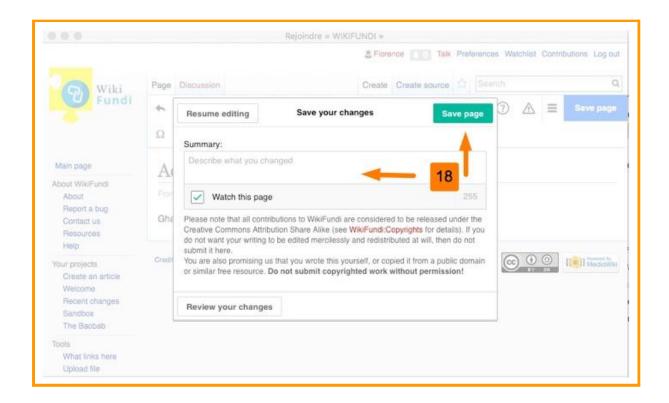
To create an article, simply enter the name of the article to be created in the space available, then click on the "create an article" button.



16 The article can be completed directly into the main body text section on the WikiFundi.



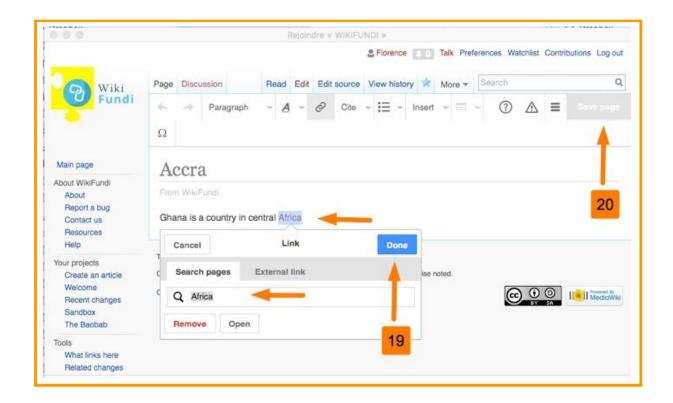
17 Remember to save your work.



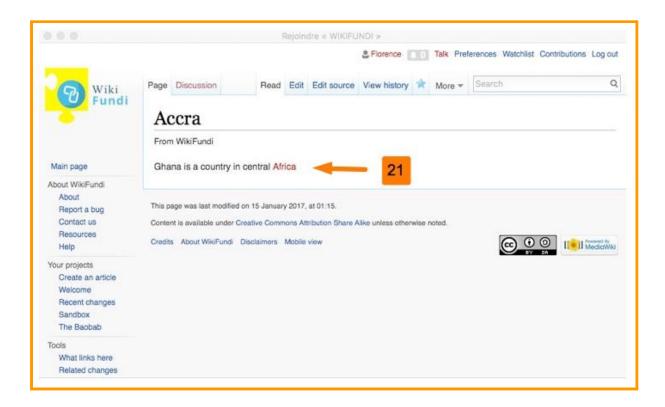
18 When you save a page, a window will open asking you to summarize your contribution.



This is what the page you created will look like.



- 19 Once the page has been created, it is possible to modify it. Here, the editor has chosen to create a "future" link on the word "Africa". To do this, she highlighted the word "Africa", then created a link to a page that does not yet exist, i.e. the page "Africa".
- 20 Do not forget to complete the summary explaining the nature of your contribution and then save.



Once the link has been created, the word Africa appears in red. This is called a "red link". At this stage, the article "Africa" does not exist. If the article "Africa" is created later, the link will appear blue and will be immediately functional.

There you have it!



Wikis working under the MediaWiki platform offer two editorial modes.

- 1) "wiki" or "wikicode" mode is the oldest mode and allows the greatest number of options thanks to its syntactic richness. On the other hand, it is also the most complex. In "wiki" mode, the text is formatted using various tags, which are not always very intuitive. Most savvy Wikipedians use wikicode.
- **2) the "visual editor"** mode is a more recent and much more intuitive mode. This is called a "wysiwyg" editor (what you see is what you get). However, this editor is less flexible than the wikicode. Some of its features do not work very well in disconnected mode. However, it is the mode beginners are advised to use when they first start editing.

By default, an article created from the home page is created in "visual editor" mode. However, when editing an existing article, you can work in both modes, at your convenience.

4.2. How to modify an existing article

On a wiki, any user can edit an article. Authorization of the first author is not required. Be bold!

It is possible to modify an article:

- 1) in "wikicode" mode. This is the oldest and most complete mode. It requires some knowledge of working in "wikicode" or xtml.
- 2) or in "visual editor" mode. More intuitive but with access to fewer features

Use of the visual editor is strongly recommended. On the other hand, it may be of interest to users to look at how wikicode works as it can be learned quite quickly. Wikicode help documents are available on the resource pages.

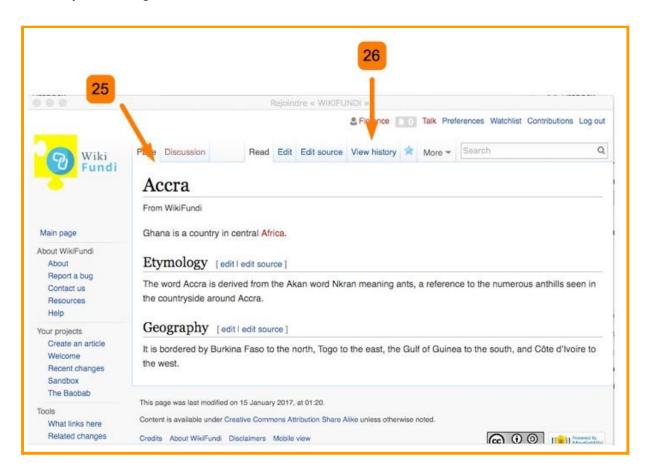
The example below is done in "wikicode" mode.



- To modify the article, click on the link "Edit source" at the top of the page. An editing window opens and you are prompted to make your changes.
- 23 In the case above, the word "Accra" is bolded and two paragraphs are added.

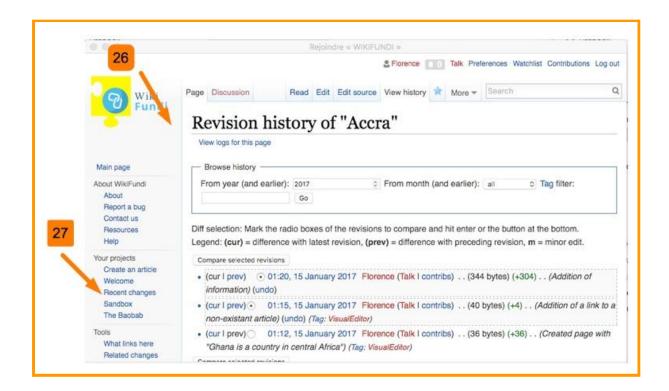


24 Changes must always be saved (at the bottom of the page), after entering the summary describing the modifications made.



25 This is how the article will appear after the changes have been saved.

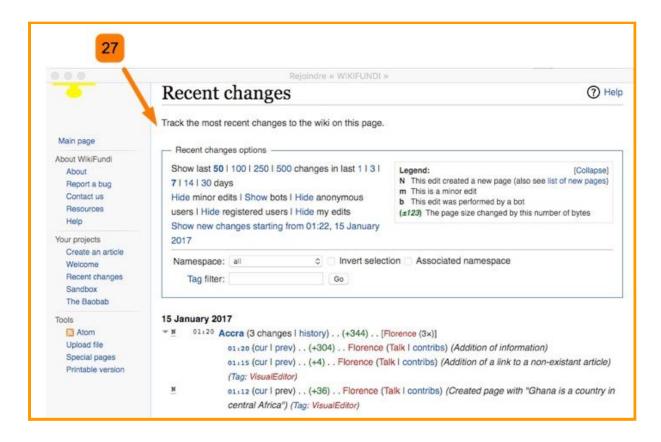
4.3. How to check out the history of modifications of an article



It is possible to view ALL the modifications made on an article by clicking on the "View history" link located just above the article. The history records all of the changes made since the article's creation. For each modification, it is possible to see the evolutions, the author, the modification date etc.

ATTENTION: This history is visible to ALL users of the platform (not just to the administrators).

4.4. How to review the history of recent modifications on the site



27 It is possible to view ALL the modifications carried out on the platform by clicking on the link "Recent changes" located in the menu on the left.

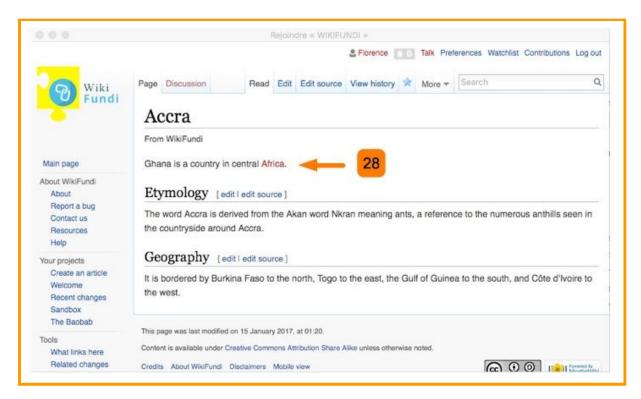
Saving changes is called the "log" or "recent changes". It lists the most recent changes. For each modification, it is possible to view the evolutions, the author, the date of modification etc.

ATTENTION: This history is visible to ALL users of the platform (not just to the administrators).



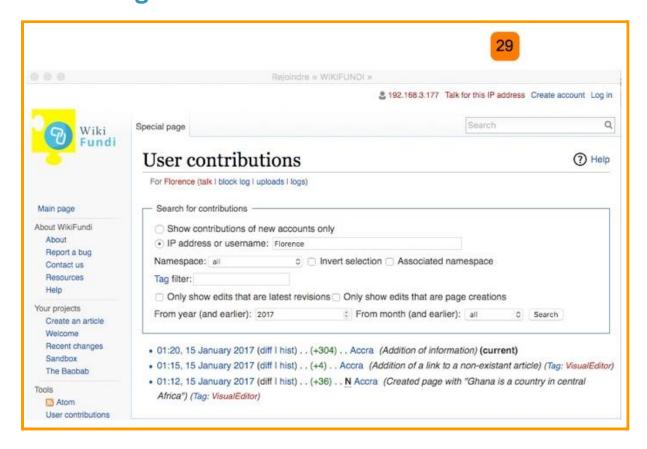
On WikiFundi, this history is also displayed by default on the homepage. This allows everyone to quickly see which items have been recently created or modified.

4.5. How to create an article from another article (red link)



28 Simply click on a red link present in an article then naturally follow the process.

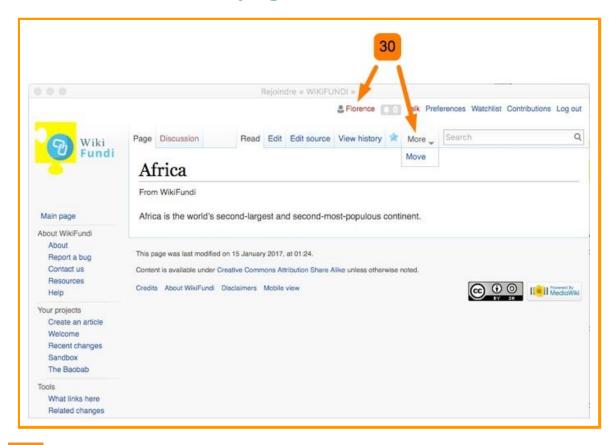
5. Tracking other editors' contributions



29 Simply click on the "contributions" link of a user. Our own contributions are available at the top right of the screen. This history of contributions indicates ALL the contributions of a user since the creation of his account.

ATTENTION: This history is visible to ALL users of the platform (and not only visible to the administrators or the owner of the account in question). Do not write anything that would make you blush!

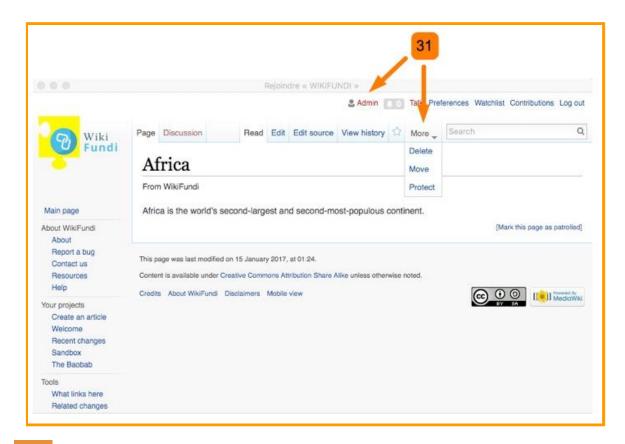
6. How to delete a page



Only administrators (people with an administrator account) can delete a page. When "Florence" (who is not an administrator) clicks "More" in the top menu, she can only suggest renaming the page.



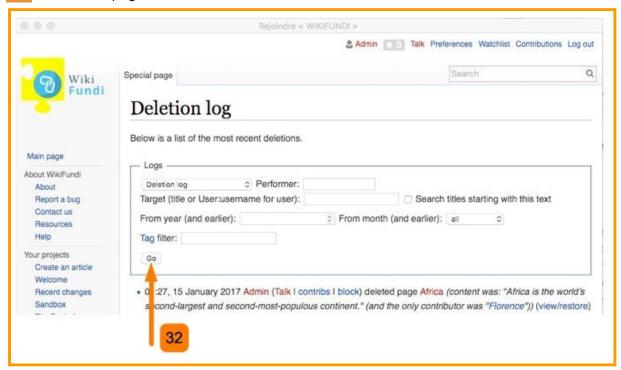
- 1) Deleting a page is not final. It becomes invisible to non-administrator users but the page still exists.
- 2) a deleted page can be restored (by an administrator).



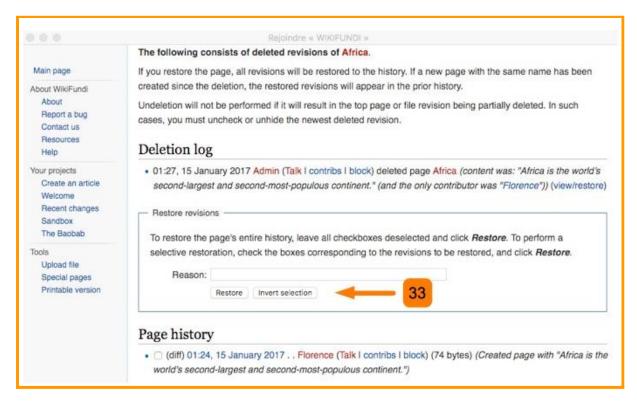
31 On the other hand, "Admin" (which has an administrator status) not only has the possibility to rename a page, but also to delete it or to protect it in writing. When the page is write-protected, only administrators can technically edit the page.



To delete a page, enter its name, enter the reason for the deletion, and save.

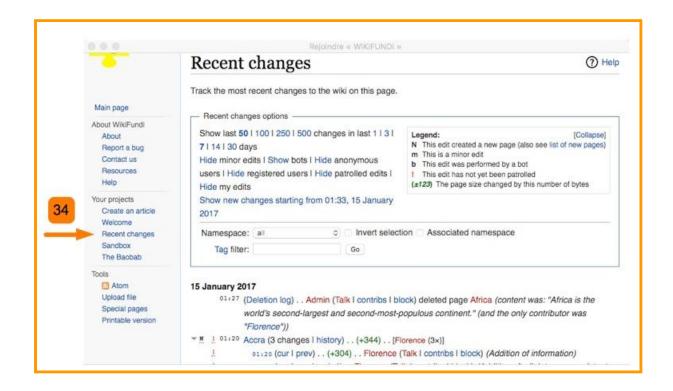


A deleted page is kept on the WikiFundi platform. However, only administrators have access to it.



All actions performed on the site are saved: this is true for article creations, modifications, deletions and restores. To restore an item, enter its name and click "Restore".

7. Track the editorial activity



This is how the history of recent changes appears showing the creation of the Accra wiki, changes to the Accra wiki, blocking a user, changing a user's rights, deleting the Africa page and restoring the Africa page.

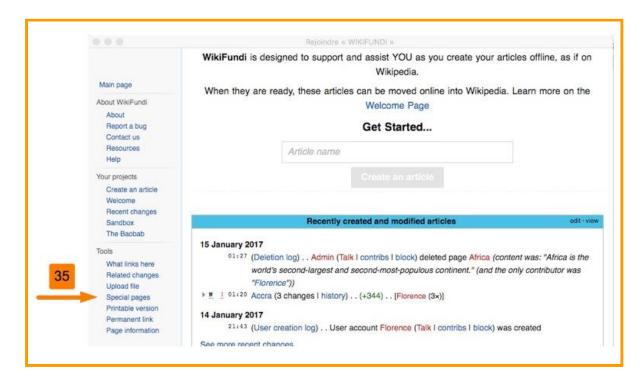
NOTE: This log is available to all wiki users. Do not do anything that would make you blush! There are many tools to monitor activity on the site and to better understand its content.

8. Advanced: special pages and administration

The wiki platform contains many so-called "special" pages. These pages can not be edited by wiki users. These include, among others:

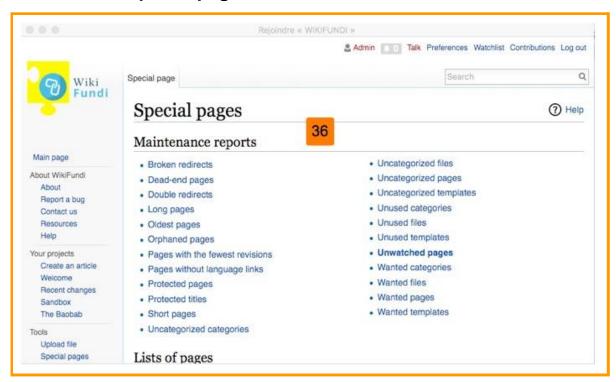
- Facilitate content maintenance
- Manage user accounts and related rights
- Access logs, such as the log (history) of the deleted pages or the log (history) of the new pages.
- Facilitate the management of images and other files
- Better manage the pages of the site thanks to various tools

8.1. How to access special pages



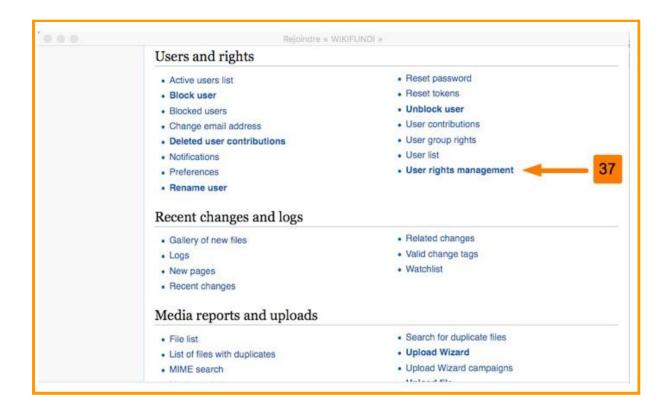
35 The special pages are accessible via the menu on the left.

8.2. What are special pages? Who has access to them?

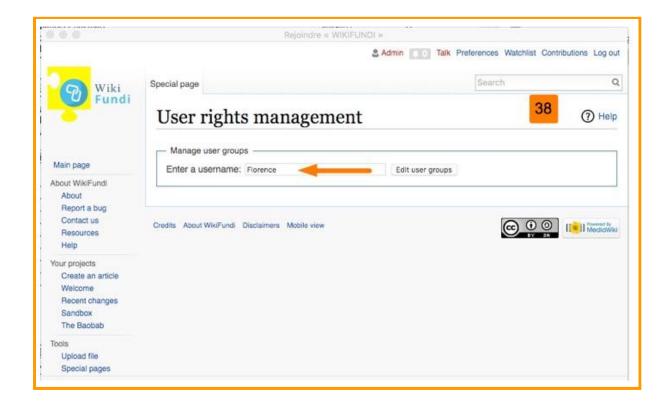


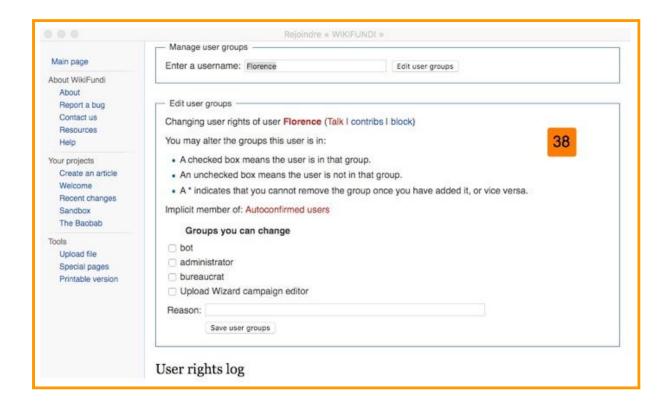
There are several categories of special pages (the screenshot above shows only part of the special pages). Links appearing in normal font lead to special pages accessible to all users of the wiki. **Bold font links** lead to restricted special pages (such as **administrators**).

8.3. Managing user rights



The special pages are accessible via the menu on the left. To access a feature click on the blue link.





Administrators access users' rights from special pages. All they need to do is enter the name of the user.

There are 4 main "special roles" for the users but on WikiFundi, only 1 of these roles is significant: the role administrator. To add a user to the Administrators group, simply check the Administrator check box and save. To remove it uncheck the box and save.

9. Transfer a WikiFundi article to an online website

A WikiFundi article on WikiFundi is written in offline mode. There is no automatic system for transferring a WikiFundi article to an external site (such as Wikipedia). This must be done manually. There are various ways of doing this. Here is one:

- 1) Connect to the Raspberry network
- 2) Go to the WikiFundi Platform
- 3) Sign in to your account
- 4) Access the item to be transferred
- 5) Click on the link "modify the wikicode" accessible at the top of the article
- 6) Select the entire wikicode of the article and copy it (preferably copy the codewiki to retain the formatting already done on WikiFundi)
- 7) Open a word processor and create a blank page
- 8) Paste the wikicode into the blank page of the word processor.

- 9) Save the text on the word processor under an easily identifiable name
- 10) Quit the Raspberry network
- 11) Connect to the internet
- 12) Launch the external site to which the item is to be transferred (eg Vikidia)
- 13) Create a page with the final name of the article
- 14) Paste the content (wikicode) of the saved article into the word processor.
- 15) Save
- 16) Check that the transfer has gone well and, if necessary, make any corrections.

There are alternative methods you can use, depending on the circumstances:

- 1) For example, if the person can access both WikiFundi and the Internet at the same time, it may not be necessary to go through a word processor (the text can be copied directly from WikiFundi and then pasted on the website).
- 2) Another example is if the person does not have access to the Internet on their computer. It may be necessary to transfer the saved word processor files to a USB key for transport to another computer that is connected to the Internet.

10. Credits

The WikiFundi software is intended to support the WikiAfrica movement and Wikimedia volunteers across Africa thanks to Florence Devouard (Anthere) and Isla Haddow-Flood, from Wiki in Africa association. It has been realized in collaboration with Wikimedia CH and Kiwix. It is set up by Emmanuel Engelhard (Kelson), Florent Kaisser, Anthere, Renaud Gaudin and other members of the community. The development of this software is made possible thanks to the Wikimedia Foundation and the Orange Foundation. The WikiFundi software and its documentation are licensed under CC-BY-SA 4.0.

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