MÖBIUS

D3.4 - Prosumer Intelligence Toolkit

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Executive Summary

This deliverable accompanies the final release of the Prosumer Intelligence Toolkit (PIT) application and describes its main functionalities.

The PIT is a new prosumer intelligence framework encompassing technology-enabled methods and tools based on data analytics that aims to provide the foundations for establishing effective cooperation with both publisher-managed and open communities of prosumers at all stages of the value chain. It aims to solve the need for unprecedented scaling up of consumer intelligence, both in reach and scope for informing editorial decisions. Thus, it can be used for integrating user-driven approaches in workflows related to book publishing decisions, business modelling and development of new products and services.

The target users of the PIT are publishers, and companies specialised in content creation; in particular, those who monitor markets and users to make editorial and/or strategic business decisions. For these target users the PIT functions as an interactive dashboard allowing the exploration of data from book communities.

In its current form the application provides publishers with a dashboard-driven user interface for the exploration of data gathered from fan-fiction community AO3 (Archive of Our Own). The PIT can be easily customised to analyse and provide an interactive dashboard to other datasets that customers have access to.

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Terminology and Acronyms

EC		European Commission
EU		European Union
MVP		Minimum Viable Product
PIT		Prosumer Intelligence Toolkit
WP		Work Package

1 Introduction

This deliverable represents the final outcome of Task 3.2 "Prosumer intelligence toolkit" and builds upon the PIT Minimum Viable Product (MVP), which was released at month 18 of the project and was described in Deliverable D3.2. This final release of the tools improves the MVP based on the feedback received during the piloting phase phase 3.

The Prosumer Intelligence Toolkit is a new prosumer intelligence framework encompassing technology-enabled methods and tools based on data analytics that aims to provide the foundations for establishing effective cooperation with both publisher-managed and open communities of prosumers at all stages of the value chain. It aims to solve the need for unprecedented scaling up of consumer intelligence, both in reach and scope for informing editorial decisions. Thus, it could be used for integrating user-driven approaches in workflows related to book publishing decisions, business modeling, and development of new products and services.

The target users of the PIT are publishers, and companies specialized in content creation, in particular, those who monitor markets and users to make editorial and/or strategic business decisions. For these target users the PIT will be an interactive dashboard allowing for data exploration.

Starting from the user requirements (described in detail in D2.1) and the functional and system requirements (described in detail in "D2.2 Möbius technology blueprint"), IN2 implemented a first design and mock-up which was then evaluated by stakeholders through the help of IMEC during the pilot phase 2 which ran from month 13 to month 19. Based on the feedback received a first minimum viable product implementation of the PIT has been done by IN2 and was evaluated during pilot phase 3 (which runs from month 20 to month 36). After the final release of the PIT the tool will remain in operation, open for users to try out and to be demonstrated at various events and locations (e.g. pilot 3B). During these final months, the technical work will focus on the operation and support rather than the implementation of new features or functionalities.

In the following chapter the functionalities of the PIT are described in detail.

2 PIT functionalities

2.1 PIT landing page

The PIT can be accessed on the web at the following URL: https://mobius-pit.in-two.com

The landing page has been designed for a mobile-first experience and aims to give visitors just enough information about what the tool can do, enticing them to get started and try out the PIT applied to the data collected from the fanfiction community AO3 (Archive of Our Own). Of course, the colour scheme chosen follows that of the Möbius brand and an important aspect of the landing page was to guide visitors to the Möbius website where they can learn more about the other tools and resources available from the project. For this reason, the top left logo of the project if clicked by the visitor will guide them to the project website. Moreover, a news item promoting the other Möbius application is prominently displayed as a notification just above the title of the hero section of the page, and links to the Möbius website under the section "Products". The learn more under the hero section also links the visitor to the main Möbius website.
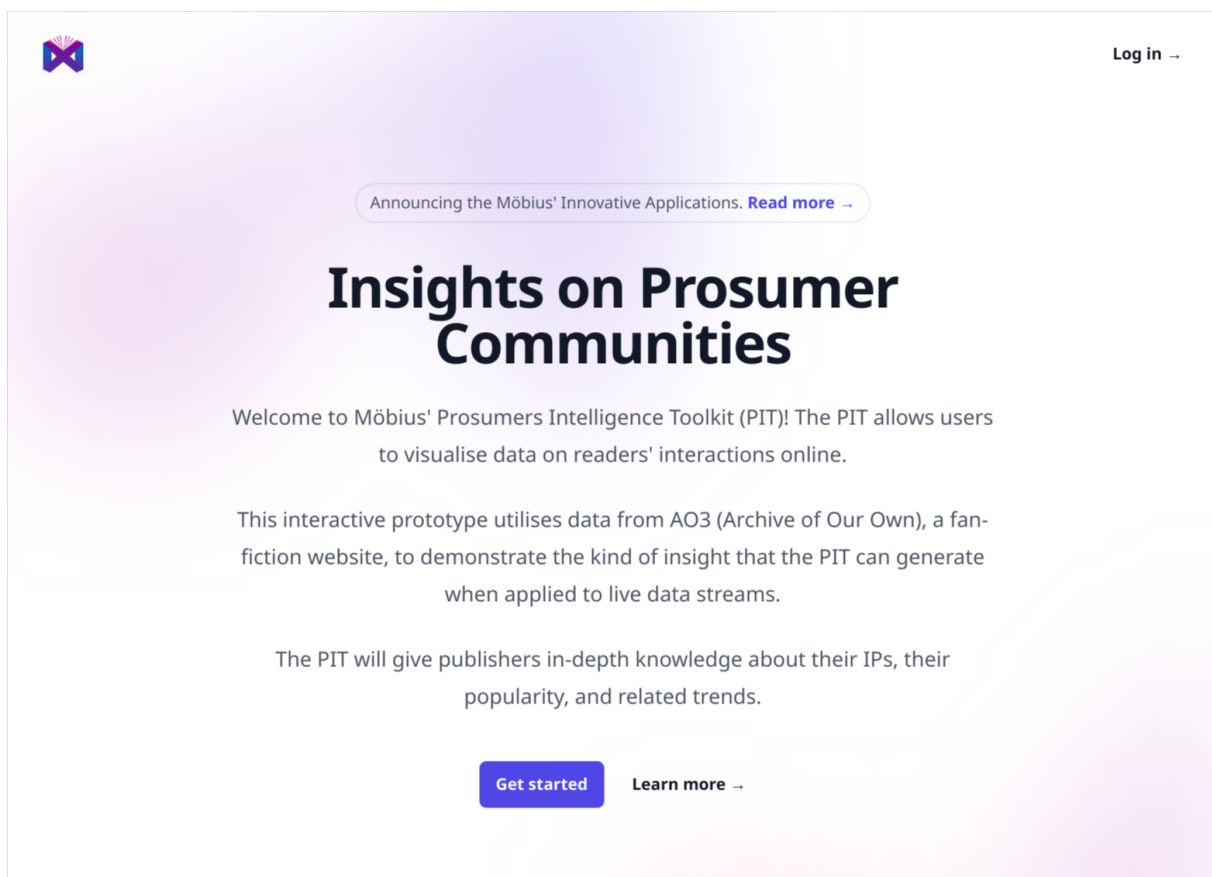

Figure 1: PIT Landing Page (above the fold)

Following popular web-design practices, the link to login into the PIT is shown twice: once as a "Log in" button at the top right corner and once just at the end of the hero section as a call-to-action button "Get started".

Because the landing page of the PIT is a great opportunity to gather leads for the upcoming exploitation activities of the project, under the fold of the landing page there is a prominent call to action to subscribe to the Möbius newsletter (which leads the user to a Mailchimp form to fill in order to subscribe).
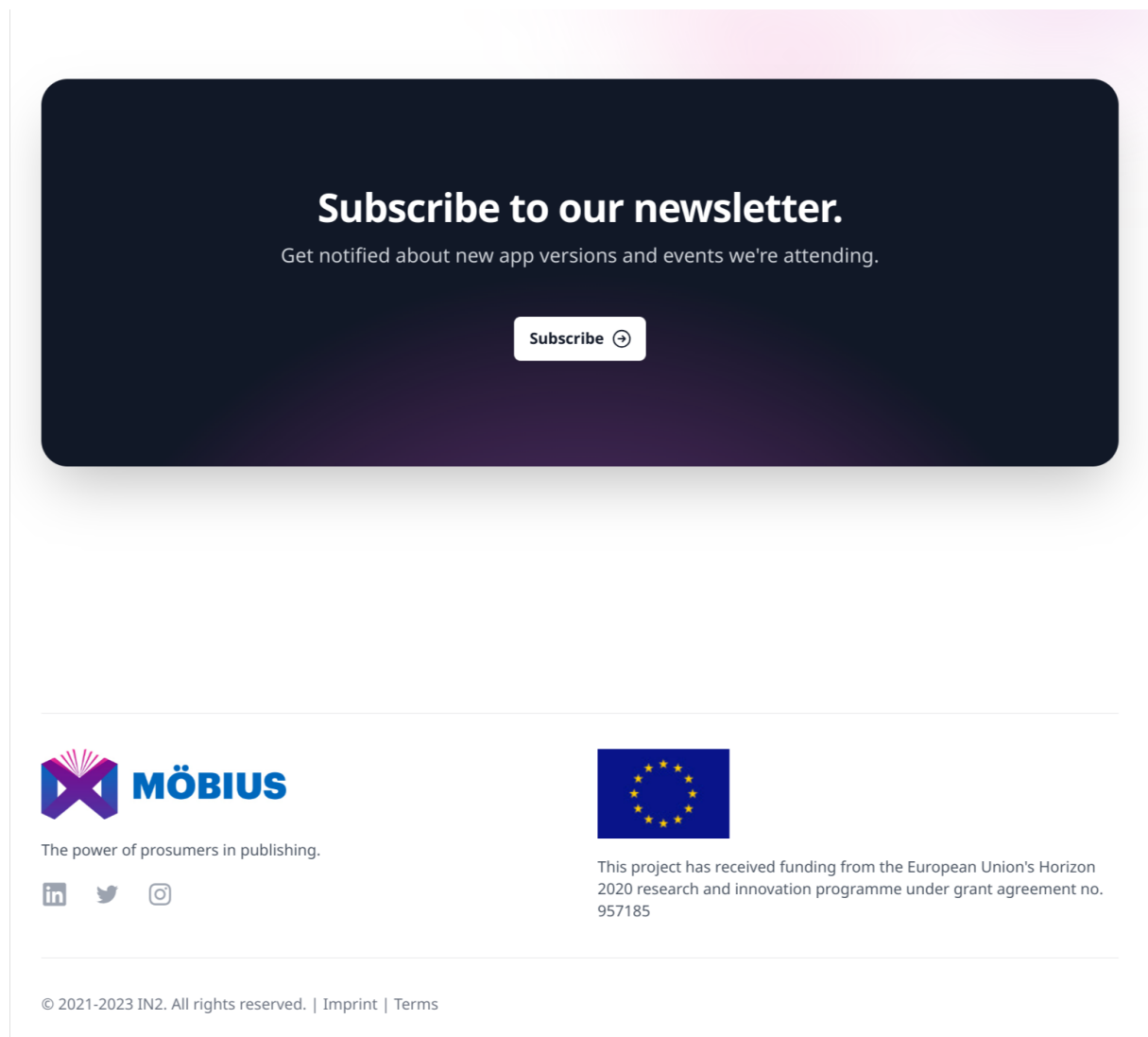

Figure 2: PIT landing page (below the fold)

At the bottom of the landing page are the acknowledgments of the EC funding that led to the creation of the tool. As well as the logo and tagline of Möbius with links to the website and the social media channels.

At the very bottom there is a link to the "Imprint" page and the "Terms and Conditions" page.

Figure 3: PIT Imprint page

Terms and Conditions

Legal

By using or signing-up at MOBIUS-PIT (the "Service") you acknowledge that you have read and agree to the following Terms of Use and Privacy Policy

You are in good company

Terms of Use

Use of the Service

By using the Service and creating an account you are agreeing to be bound by the following terms and conditions ("Terms of Use").

- You must be 14 years or older to use the Service.
- You may not post nude, partially nude, or sexually suggestive photos.
- You are responsible for any activity that occurs under your account or username.
- You are responsible for keeping your password secure.
- You must not abuse, harass, threaten, impersonate or intimidate other users.
- You may not use the Service for any illegal or unauthorized purpose. International users agree to comply with all local laws regarding online conduct and acceptable content.
- You are solely responsible for your conduct and any data, text, information, user names, graphics, photos, profiles, audio and video clips, links ("Content") that you submit, post, and display on the Service.
- You must not modify, adapt or hack the Service or modify another website so as to falsely imply that it is associated with the Service.
- You must not crawl, scrape, or otherwise cache any content from the Service including but not limited to user profiles and photos.
- You must not create or submit unwanted email or comments to any Service members ("Spam").
- You must not transmit any worms or viruses or any code of a destructive nature.
- You must not, in the use of the Service, violate any laws in your jurisdiction (including but not limited to copyright laws).

Violation of any of these agreements will result in the termination of your account. While the Service prohibits such conduct and content on its site, you understand and agree that the Service cannot be responsible for the Content posted on its web site and you nonetheless may be exposed to such materials and that you use the Service at your own risk.

By using or signing-up at MOBIUS-PIT (the "Service") you acknowledge that you have read and agree to the following Terms of Use and Privacy Policy

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We reserve the right to modify or terminate the Service for any reason, without notice at any time.

We reserve the right to alter these Terms of Use at any time. If the alterations constitute a material change to the Terms of Use, we will notify registered users via email. What constitutes a "material change" will be determined at our sole discretion, in good faith and using common sense and reasonable judgement.

We reserve the right to refuse the Service to anyone for any reason at any time.

We reserve the right to force forfeiture of any username that becomes inactive, violates trademark, or may mislead other users.

We may, but have no obligation to, remove Content and Accounts containing Content that we determine in our sole discretion are unlawful, offensive, threatening, libelous, defamatory, obscene or otherwise objectionable or violates any party's intellectual property or these Terms of Use.

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Although the Service will normally only delete Content that violates this Agreement, we reserve the right to delete any Content for any reason, without prior notice. Deleted content may be stored by the Service in order to comply with certain legal obligations and is not retrievable without a valid court order. Consequently, the Service encourages you to maintain your own backup of your Content. In other words, the Service does not include a backup offering. The Service will not be liable to you for any modification, suspension, or discontinuation of its offerings, or the loss of any Content.

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You represent and warrant that:

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- The posting and use of Content on or through the Service does not violate the privacy rights, publicity rights, copyrights, contract rights, intellectual property rights or any other rights of any person.
- The posting of Content on the Service does not result in a breach of contract between you and a third party.

You agree to pay for all royalties, fees, and any other monies owing any person by reason of Content you post on or through the Service.

Log in →

...re safe with us

...cy Policy

...l Information

...in-two.com), operates several websites and applications, among ...Service. It is IN2's policy to respect your privacy regarding any ...we may collect while operating our websites and applications.

...e and application visitors

...perators, IN2 collects non-personally-identifying information of the ...eb browsers and servers typically make available, such as the ...e, language preference, referring site, and the date and time of ...request. IN2's purpose in collecting non-personally identifying ...is to better understand how IN2's visitors use its websites and ...From time to time, IN2 may release non-personally-identifying ...in the aggregate, for example by publishing a report on trends in ...f its websites and applications.

...lects potentially personally-identifying information like Internet ...) addresses for all users visiting one of its websites and ...IN2 only discloses IP addresses under the same circumstances ...and discloses personally-identifying information as described

...ng of Personally-Identifying Information

...ors to IN2's websites (for example registered users) choose to ...IN2 in ways that require IN2 to gather personally-identifying ...The amount and type of information that IN2 gathers depends on ...of the interaction. For example, we ask visitors who sign up for an ...provide a username and email address. In each case, IN2 collects ...ation only insofar as is necessary or appropriate to fulfill the ...the visitor's interaction with the website and the Service.

...t disclose personally-identifying information other than as ...elow. Visitors can always refuse to supply personally-identifying ..., with the caveat that it may prevent them from engaging in ...site-related activities.

...hts

...ers, you have the following rights regarding your data saved by us:

...n information
...be corrected
...be deleted and to "be forgotten".

...to exercise any of your rights, please write to help@in-two.com. ...ome of your rights might result to your account being deleted from

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Aggregated Statistics

IN2 may calculate aggregated statistics about the behavior of visitors to its websites and applications. IN2 may display this information publicly or provide it to others. However, IN2 does not disclose personally-identifying information other than as described below.

Cookies

A cookie is a string of information that websites and applications store on a visitor's computer, and that the visitor's browser provides to the website and application each time the visitor returns. IN2 uses cookies to help IN2 identify and track visitors, their usage of IN2 website, and their website access preferences.

IN2 visitors who do not wish to have cookies placed on their computers should set their browsers to refuse cookies before using IN2's websites, with the drawback that certain features of IN2's websites may not function properly without the aid of cookies. This Privacy Policy covers the use of cookies by IN2 and does not cover the use of cookies by any advertisers.

IN2's websites and applications use Mautic an open source self-hosted marketing automation software. Mautic uses cookies to help analyse how users use the websites and applications. The information generated by the cookie about your use of the website (including your IP address) are transmitted to and stored by IN2 on its own servers.

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IN2 discloses potentially personally-identifying and personally-identifying information only to those of its employees, contractors and affiliated organisations that (i) need to know that information in order to process it on IN2's behalf or to provide functionalities available at IN2's websites and applications, and (ii) that have agreed not to disclose it to others. Some of those employees, contractors and affiliated organizations may be located outside of your home country; by using IN2's websites and applications, you consent to the transfer of such information to them.

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If you are a registered user of an IN2 website or application and have supplied your email address, IN2 may occasionally send you an email to tell you about new features, solicit your feedback, or just keep you up to date with what is going on with IN2 and its products. We primarily use our various product blogs to communicate this type of information, so we expect to keep this type of email to a minimum.

If you send us a request (for example via a support email or via one of our feedback mechanisms), we reserve the right to publish it in order to help us clarify or respond to your request or to help us support other users. IN2 takes all measures reasonably necessary to protect against the unauthorized access, use, alteration or destruction of potentially personally-identifying and personally-identifying information.

Policy Changes

Although most changes are likely to be minor, IN2 may change its Privacy Policy from time to time, and in IN2's sole discretion. IN2 encourages visitors to frequently check this page for any changes to its Privacy Policy. Your continued use of this site after any change in this Privacy Policy will constitute your acceptance of such change.

MÖBIUS

...prosumers in publishing.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 957185

Figure 4: PIT Terms and Conditions

If a user has already created an account, the login page provides a way to authenticate in the PIT by typing in the username (or email) and password.

Figure 5: PIT Login Page

If the user did not make an account before, a new account can be created by clicking the "Register" link on the login page. In the register page (see below), a username, email and

password are required to create an account.

Figure 6: PIT Register

In the case the user has forgotten the password, it can be reset by clicking on the appropriate link on the login page. In the reset password screen, a valid (previously registered) email address must be given. The form then sends an email with a special access link to set a new password.

Figure 7: PIT reset password

2.2 PIT Dashboard

Once the user has successfully logged in, the Dashboard is shown.
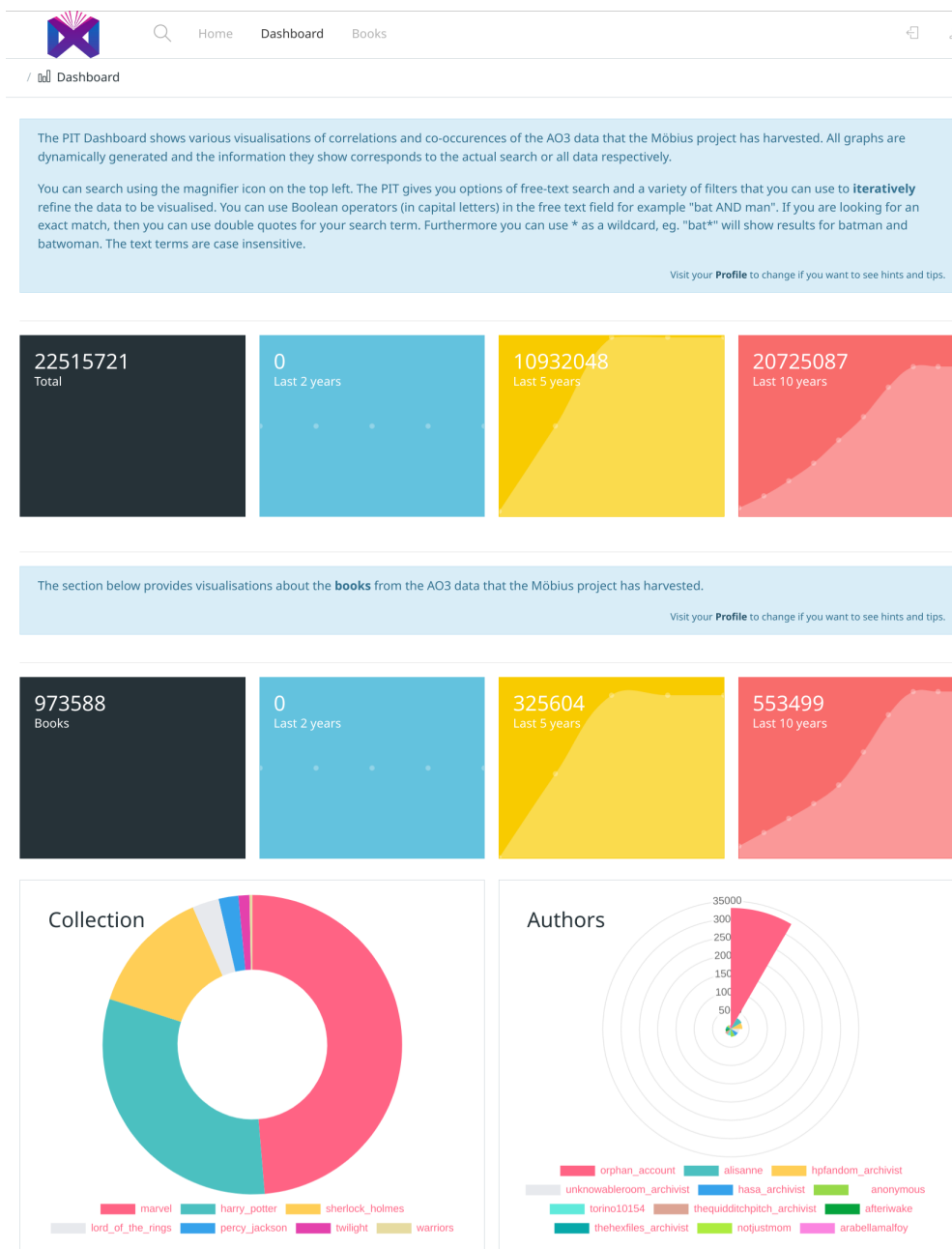
Figure 8: PIT Dashboard

The Dashboard consists of a number of interactive visualisations to explore the underlying data gathered from the fandom communities. The visualisations include the following:

- Polar graphs, which is similar to the radar chart, but has wedges that expand outwards from the centre; the data points are represented in a circular coordinate system, where each point's position is defined by its distance from the centre (radius) and the angle it makes with a reference axis (theta).

- Doughnut charts, which is similar to a more common Pie Chart but allows for more sections to be visualised without a problem

- Area charts, which is a variation of the line chart, especially useful for showcasing changing data over time

When a user hovers over any of the charts, additional information is displayed about discrete data points. Moreover, a user can click on specific data subsets to remove or add to the visualisation, allowing in this way a dynamic exploration of the dataset.
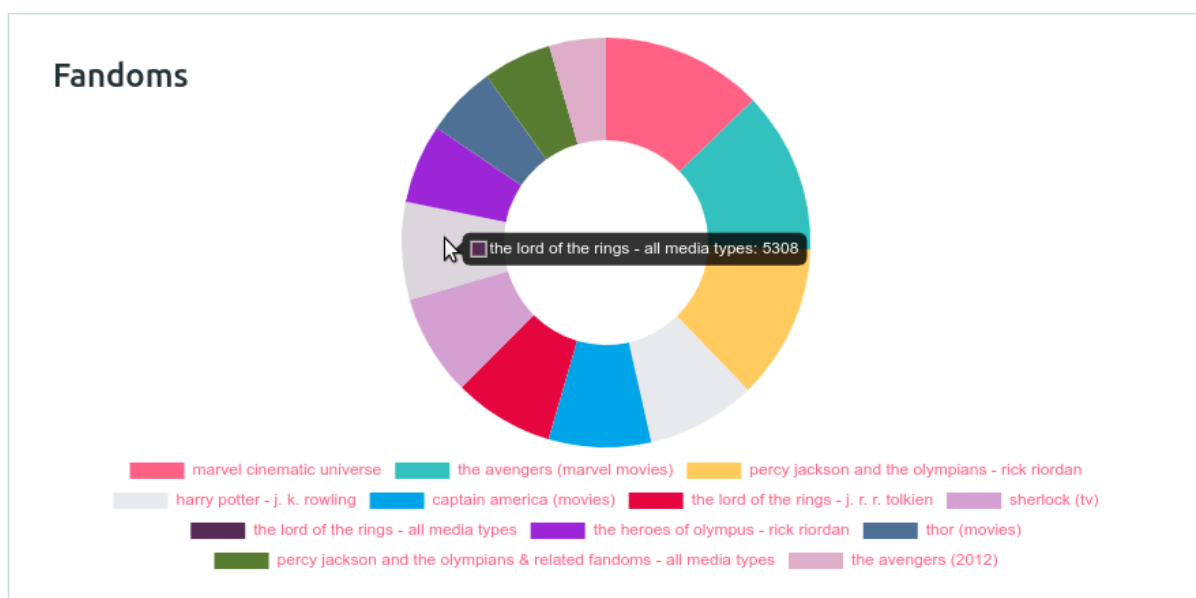
Figure 9: Doughnut Chart detail - hovering over area to see quantitative measure
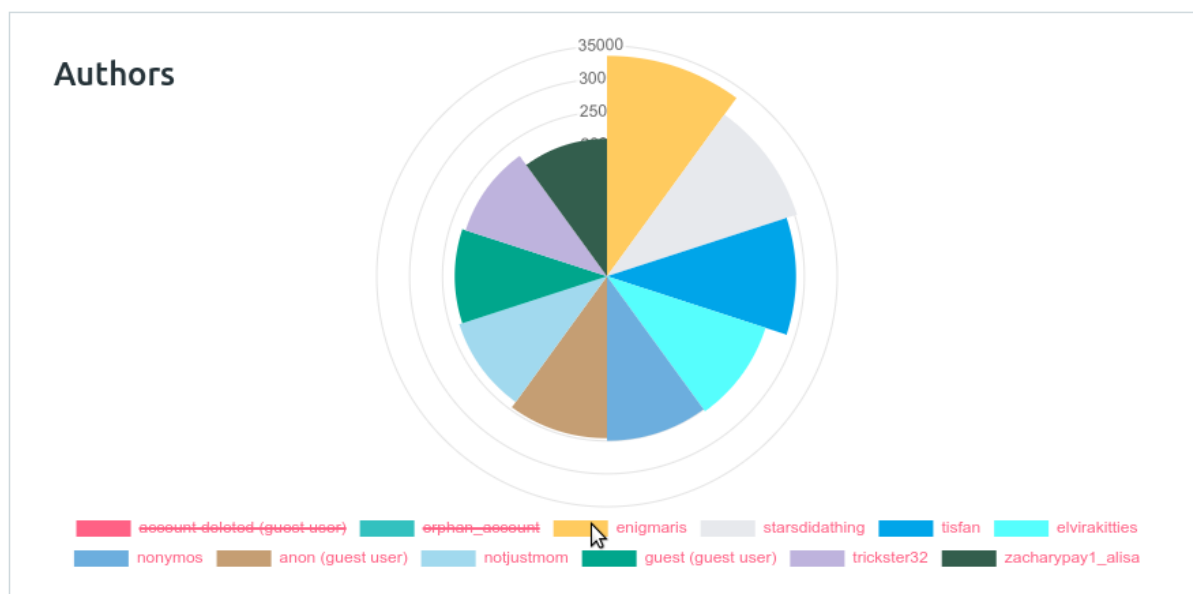
Figure 10: Polar Graph example of Authors removing data about "deleted accounts" and "orphaned" accounts

The Dashboard shows various visualisations of correlations and co-occurrences of the AO3 data that the Möbius project has harvested. All graphs are dynamically generated and the information they show corresponds to the actual search or all data respectively.

A first visualisation provides an overview over the whole dataset (total number of posts, books, comments).
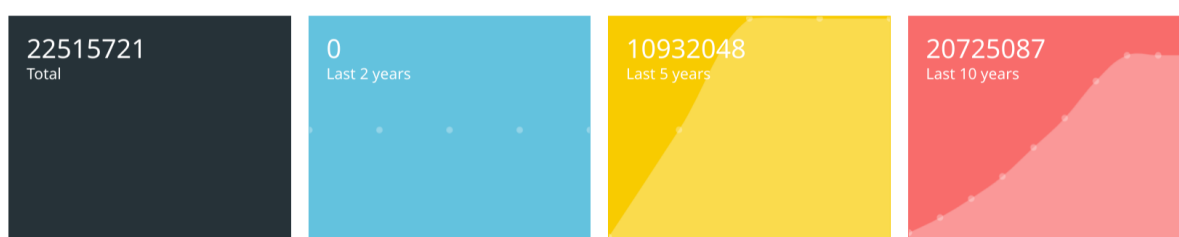
Figure 11: Visualisation overall data

For both Books and Comments, the user can interactively visualise the important information such as collection, authors, fandoms, characters, language, publication status.
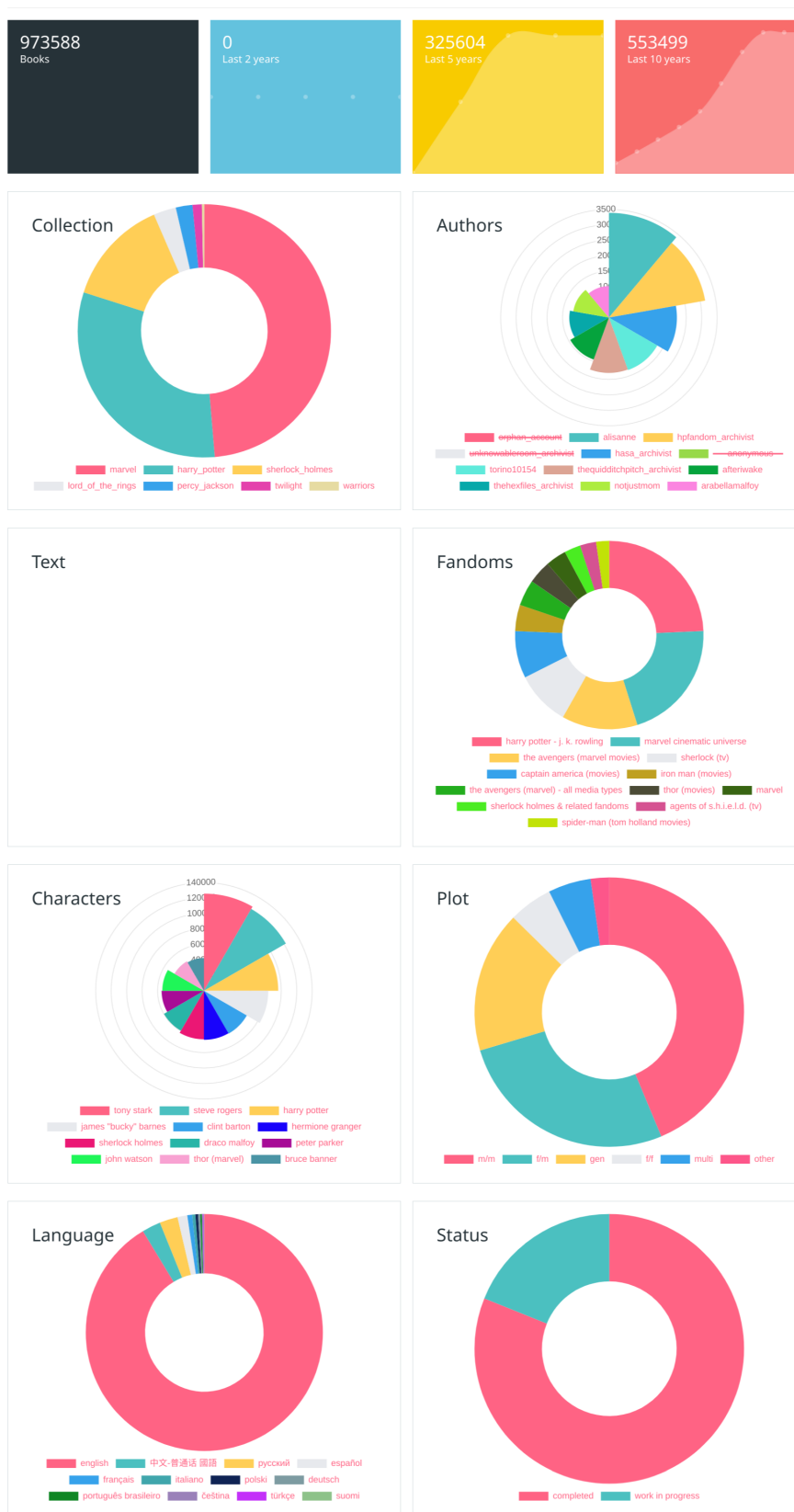
Figure 12: PIT Dashboard - Book data overview
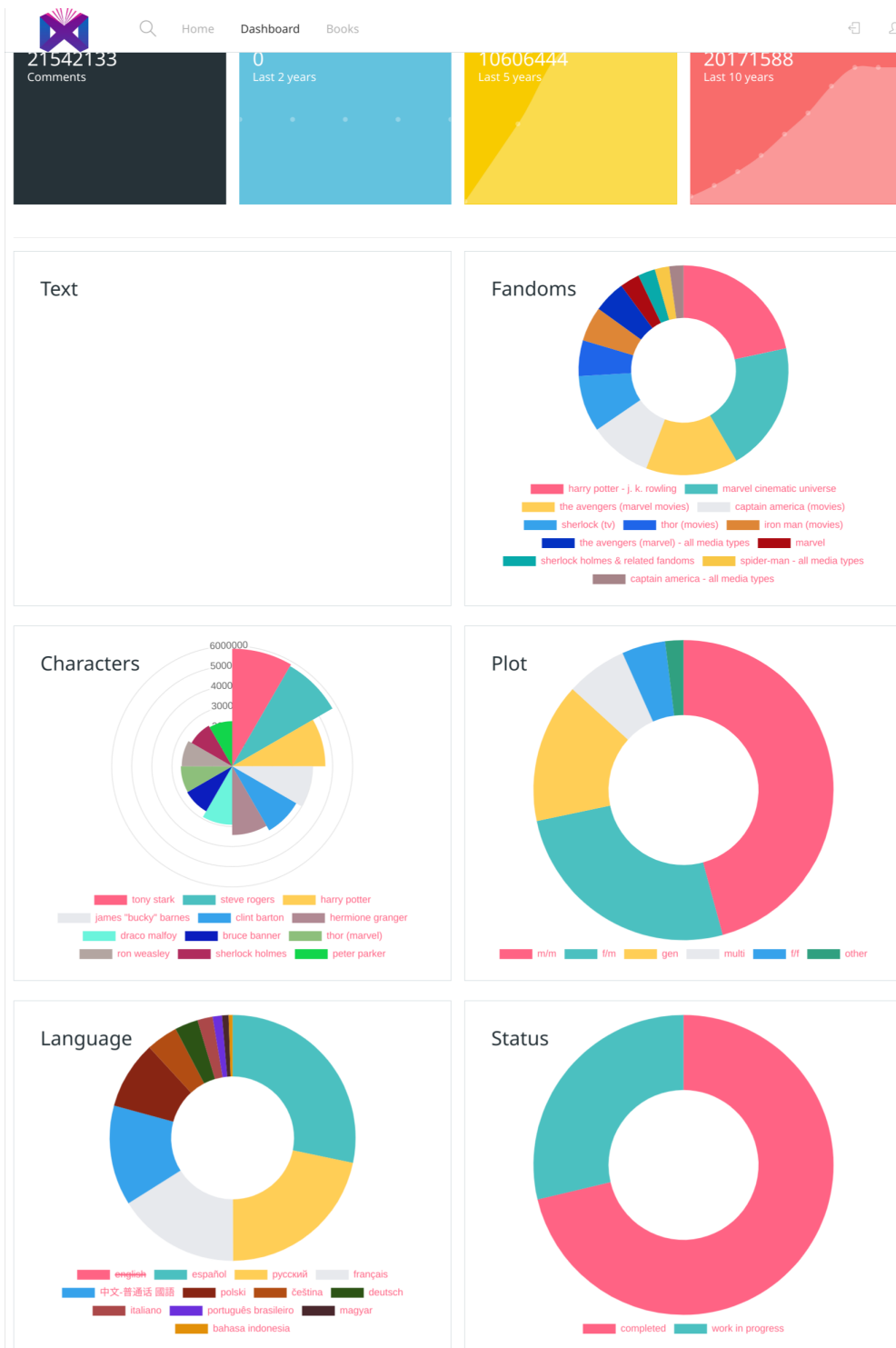
Figure 13: PIT Dashboard - Comments overview

By using these data categories as facets (or filters) in an advanced search, it is possible for the user to further explore relations within the data. The user can select which facets/filters to use in combination and dynamically see the new data visualised in the charts. The user can also use free-text search in combination with a variety of filters to iteratively refine the data to be visualised. The search bar supports the use of Boolean operators (in capital letters) in the free text field (for example "bat AND man"). If users are looking for an exact match, then they can use double quotes for the search term. Furthermore, it is possible to use * as a wildcard, eg. "bat*" will show results for batman and batwoman. The text terms are case insensitive.
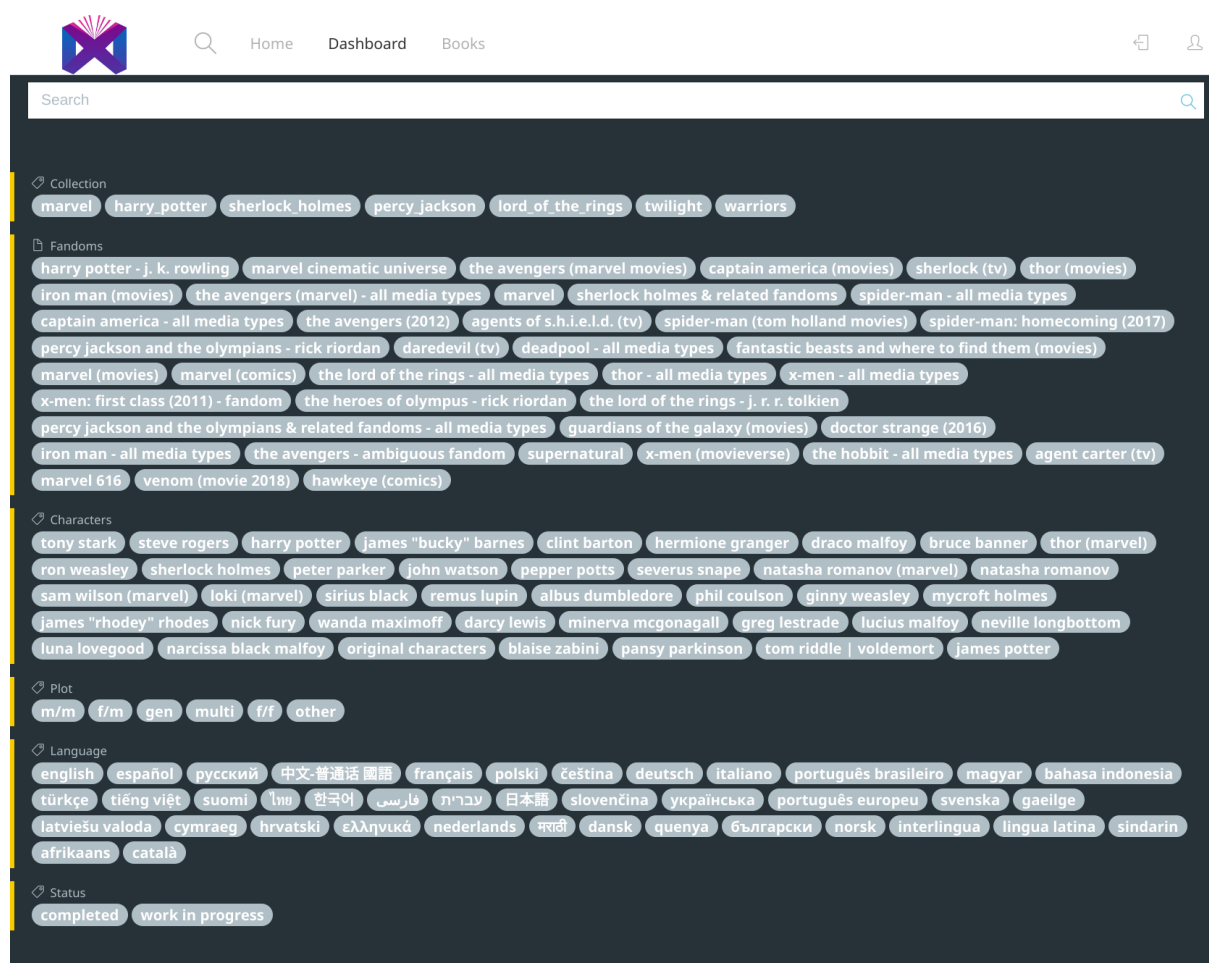
Figure 14: PIT advanced search for data exploration (overview)

When a search is used, a notification is displayed on the top of the dynamic Dashboard visualisations in order to inform the user about the search query currently displayed:

Figure 15: Notification about current search query for the dynamic visualisations

By default, the Dashboard also displays a number of hints and tips, which are meant to facilitate the process of onboarding new users. These hints can be turned off and on by using a toggle found in the Profile page of the user.

The PIT Dashboard shows various visualisations of correlations and co-occurences of the AO3 data that the Möbius project has harvested. All graphs are dynamically generated and the information they show corresponds to the actual search or all data respectively.

You can search using the magnifier icon on the top left. The PIT gives you options of free-text search and a variety of filters that you can use to **iteratively** refine the data to be visualised. You can use Boolean operators (in capital letters) in the free text field for example "bat AND man". If you are looking for an exact match, then you can use double quotes for your search term. Furthermore you can use * as a wildcard, eg. "bat*" will show results for batman and batwoman. The text terms are case insensitive.

Visit your **Profile** to change if you want to see hints and tips.

Figure 16: Example of hints displayed on the Dashboard

2.3 Exploring data about books

The books written by prosumers are of course at the core of the Möbius approach and as such present important data to be analysed. For this reason, the PIT provides a bespoke dynamic visualisation of aggregated book data, allowing the user to gather important insights at a glance from massive amounts of data.

The Books section shows the list of books contained in the AO3 data that the Möbius project has harvested. The list is dynamically generated and the information they show, corresponds to the actual search or all data respectively.

User	Title	Language	Bookmarks		Comments		Kudos	
TrashAccount harry_potter | 2021-07-07	Work In progress	English	0.0%	1	0.1%	49	0.0%	6
namtiddies_are_big harry_potter | 2021-07-07	Listen Boy, My First Love Story	English	0.5%	54	0.0%	2	0.3%	306
Filidais harry_potter | 2021-07-06	A Work In Progress	English	0.0%	3	0.0%	0	0.0%	9
ilmassu harry_potter | 2021-07-05	Interloper	English	0.3%	33	0.1%	19	0.2%	159
TheHigherDissidency harry_potter | 2021-07-03	Feminea Inextensi	English	1.0%	113	0.6%	219	0.5%	452

Figure 17: PIT Books overview

The information is presented in tabular format, and users can arrange the data based on any of the dimensions provided. Below is shown an example of the data organised based on descending order of books having most bookmarks.

Figure 18: Ordering books based on number of Bookmarks they have

Using such visualisations, users can quickly spot interesting data points, such as books that have many bookmarks and many comments (indicating more reader engagement). Once such data points of interest have been identified, users can see more information about each book by clicking its title.

This will open up the individual dashboard of the book selected. The book dashboard provides detailed information about the specific book: author alias, title, date published, abstract, plots, characters, fandoms, series, relationships and warnings.

Home   Dashboard   Books

/ 🕮 Book / 10920276 / If You Had This Time Again

👤 dls

If You Had This Time Again
Date published: 2017-05-16

Tony Stark closed his eyes in a wrecked Siberian bunker and woke up on a demolished New York street. Four years earlier. [Translated into Mandarin Chinese by Oxalis, Polish by Every_Moment_Matters, Russian by Isenbo, and Brazilian Portuguese by Thefoxandthewolf.] [Text-to-speech podfic by saltyunicorn.]

Plots	Characters	Fandoms	Series	Relationships	Warnings
1	18	1	1	1	1

🏳 M/M   🏷 Marvel Cinematic Universe   👥 Loki/Tony Stark

👤 Tony Stark   ⩘ Would You Do It All the Same?   👋
👤 Loki (Marvel)
👤 Steve Rogers
👤 Bruce Banner
👤 Thor (Marvel)
👤 Natasha Romanoff
👤 Clint Barton
👤 Jarvis (Iron Man movies)
👤 Pepper Potts
👤 James "Rhodey" Rhodes
👤 Jane Foster (Marvel)
👤 Darcy Lewis
👤 James "Bucky" Barnes
👤 Guardians of the Galaxy Team
👤 T'Challa (Marvel)
👤 Shuri (Marvel)
👤 Thanos (Marvel)
👤 Stephen Strange

Figure 19: Book dashboard - main information

Interactions statistics compared with the average values of all books in the dataset are also presented alongside an indication if it is more or less than the average: number of chapters, number of hits received, number of kudos received, number of times it has been bookmarked, number of comments, and total number of words.
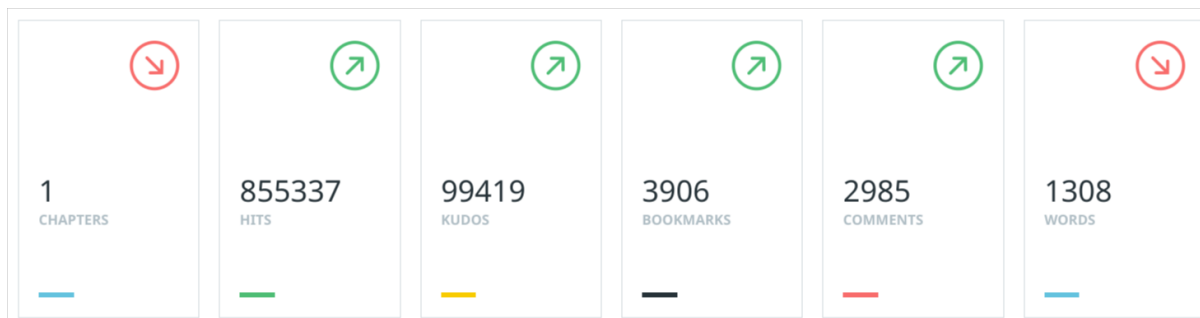
Figure 20: Interaction stats of the book compared with the average

The data extracted about the emotions evoked from the author and readers is also displayed as well as the number of monthly interactions (comments and bookmarks) over time.
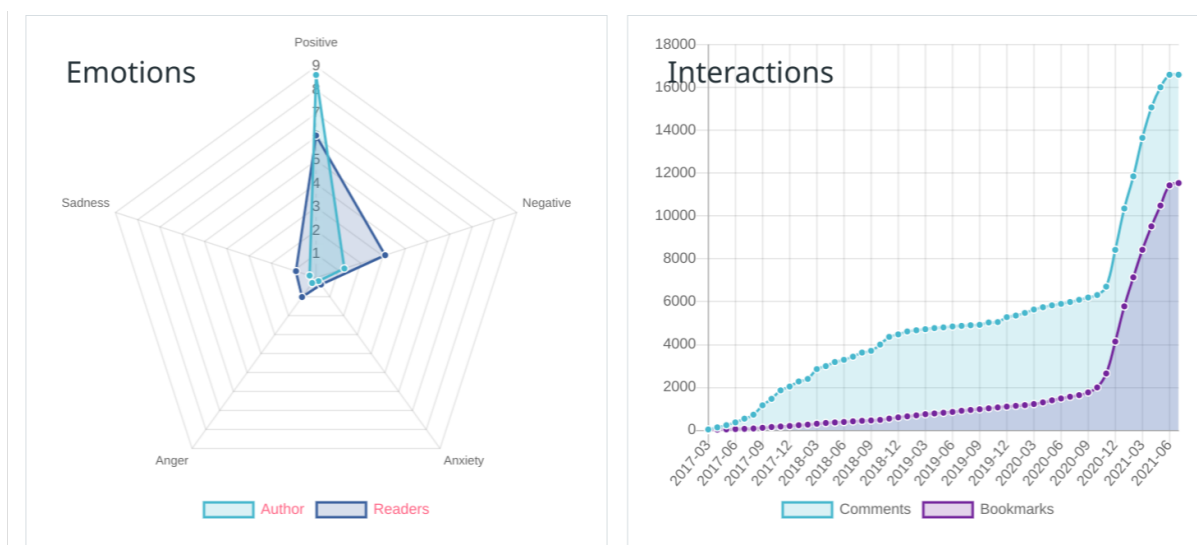
Figure 21: Visualisation of Emotions and Interactions data for a book

An advanced search is also available for the Books section (similarly as for the dashboard). It can be used for instance in order to get all the books of one author at a glance (see below) or for instance visualise the books written in French where hobbits are in as well as a specific character (see below).

Figure 22: Using the search to get all books from an author

Figure 23: Navigating the books data using the advanced search and filters

2.4 Miscellaneous

The PIT application aims to have a minimalist design so that the user can focus on the data and visualisations offered. The main navigation is done through a top bar that provides access to the main functionalities of the application: Search, Home page, Dashboard, Books, Logout and Profile.
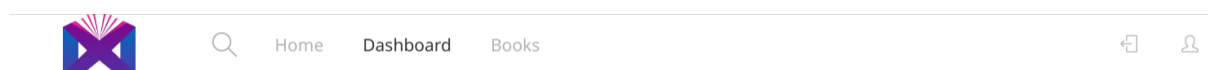

Figure 24: PIT navigation bar

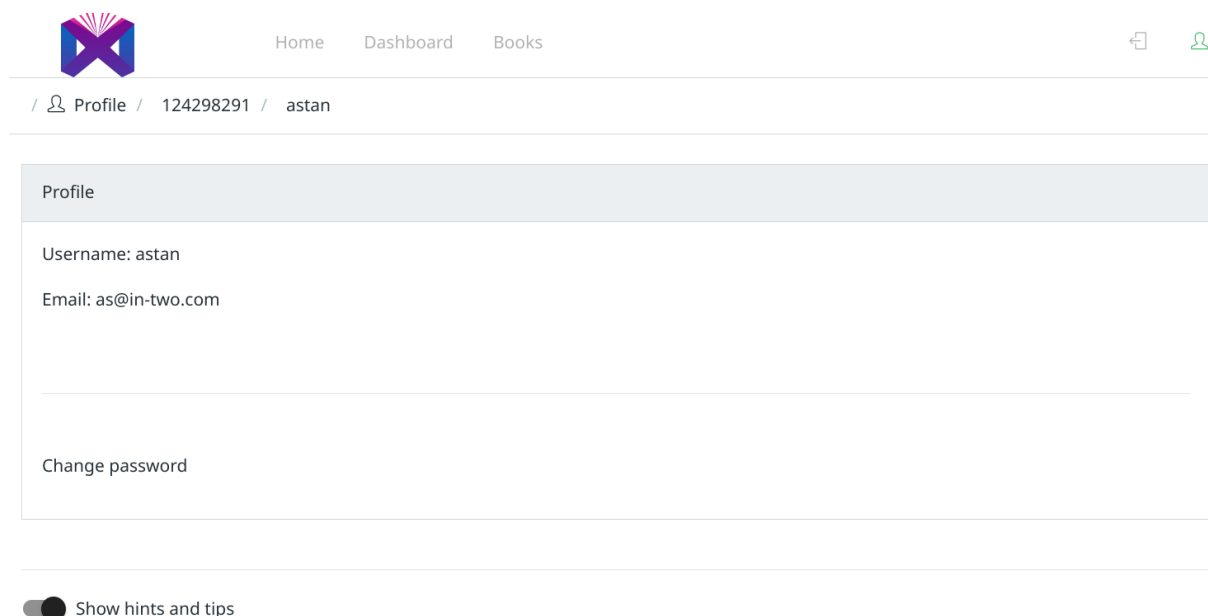The profile page presents the basic info of the registered use and gives the option to change the password and toggle "hints and tips" on or off.

Figure 25: PIT Profile page