

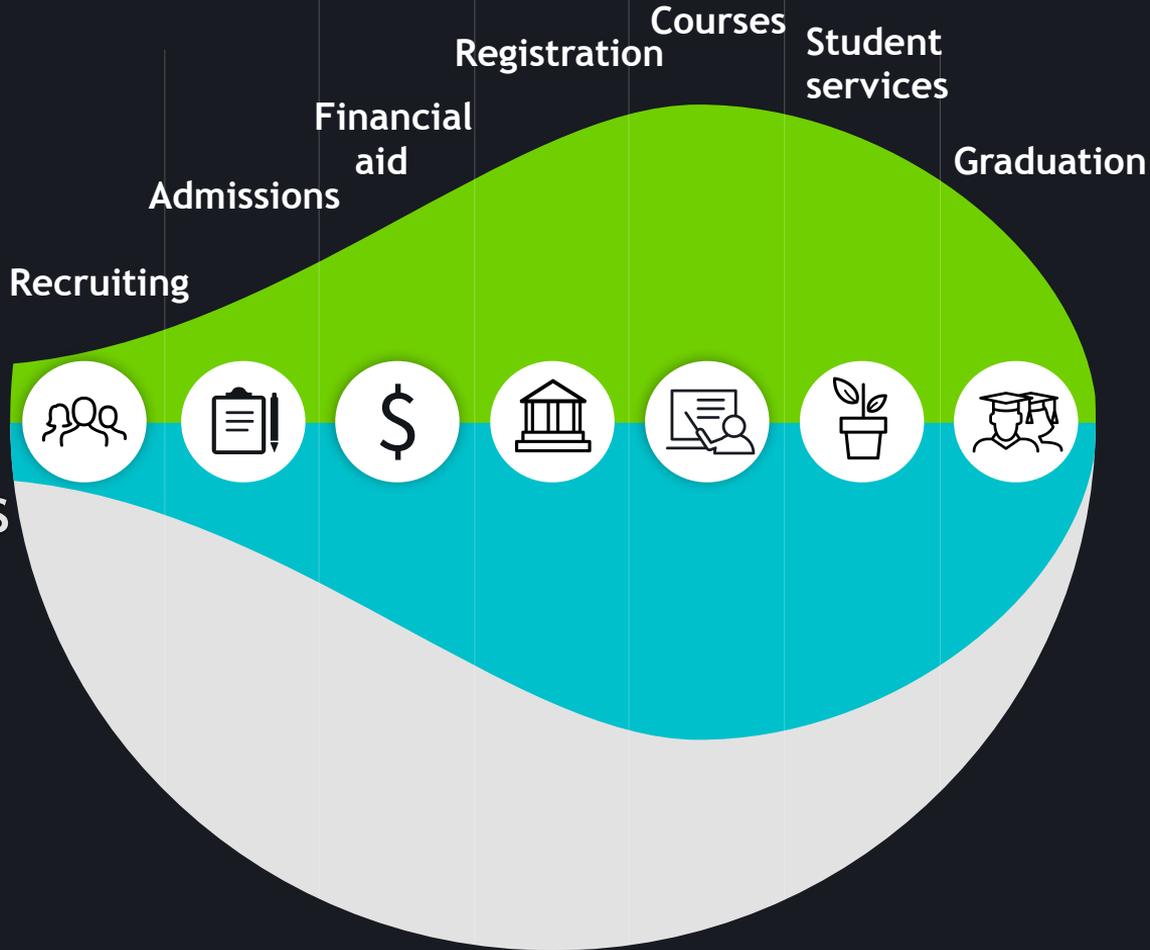
A diverse group of students in a classroom setting. In the foreground, a young woman with curly hair is smiling and looking towards the camera. Next to her, another young woman is looking towards the right. In the background, several other students are visible, some looking towards the camera and others looking away. The scene is brightly lit, suggesting a modern classroom or lecture hall. A semi-transparent white text box is overlaid on the left side of the image.

Creating an accessible learning environment

Enabling all students to succeed

Challenges in the student lifecycle

Students
Instructors
Institutions



Student challenges



Explicit alternative
format requests



Long delays
on receiving
requested formats



Excludes
many students



Closely related
to quality and
usability



Instructor challenges



Lack of awareness
of what to do

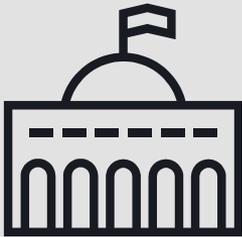


Lack of understanding
on how it can affect students



Lack of guidance
on how to improve accessibility

Institutional challenges



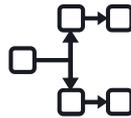
No insight
into how institution
is doing



Multiple
stakeholders



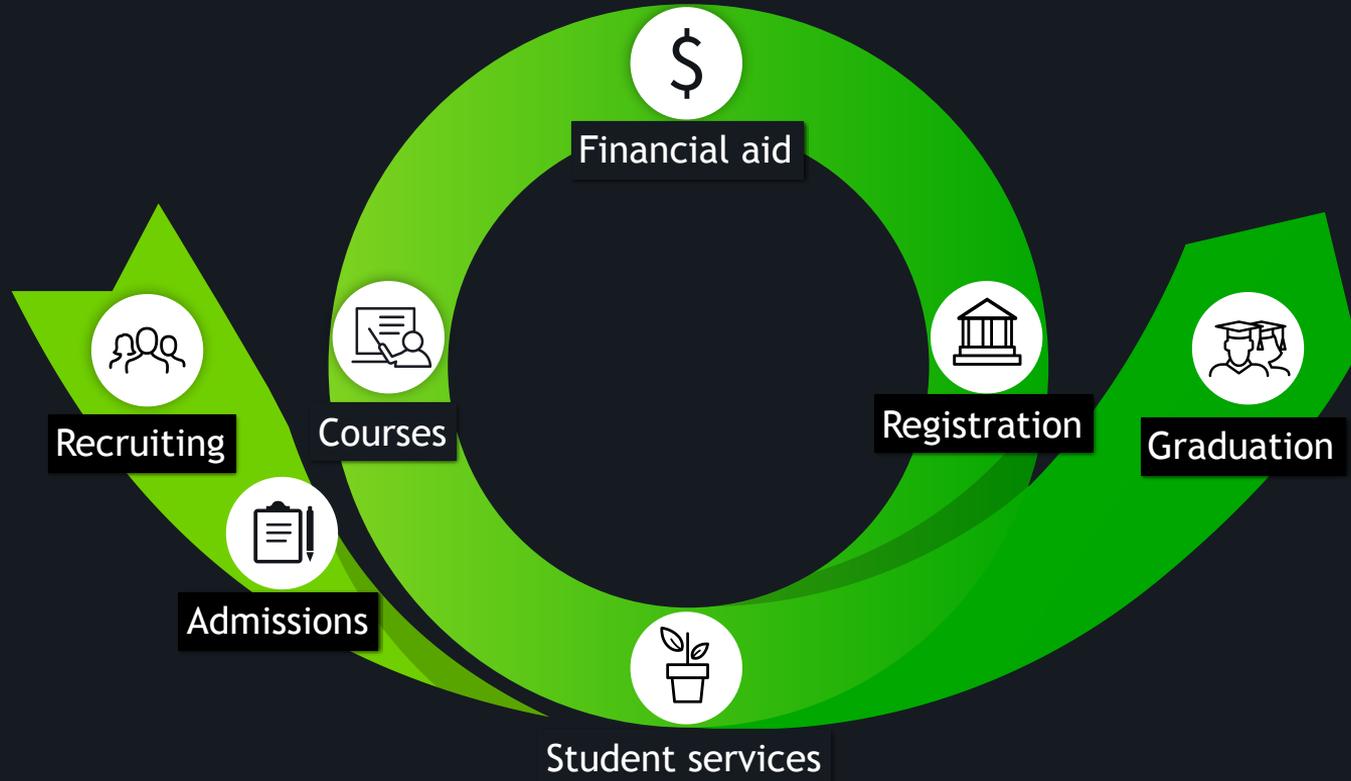
Manual
remediation
workflow



Lawsuits
because of legal
requirements



Accessibility in the eLearning Student Lifecycle



Digital course content



Blackboard®



Making course content accessible

Accessibility in the LMS

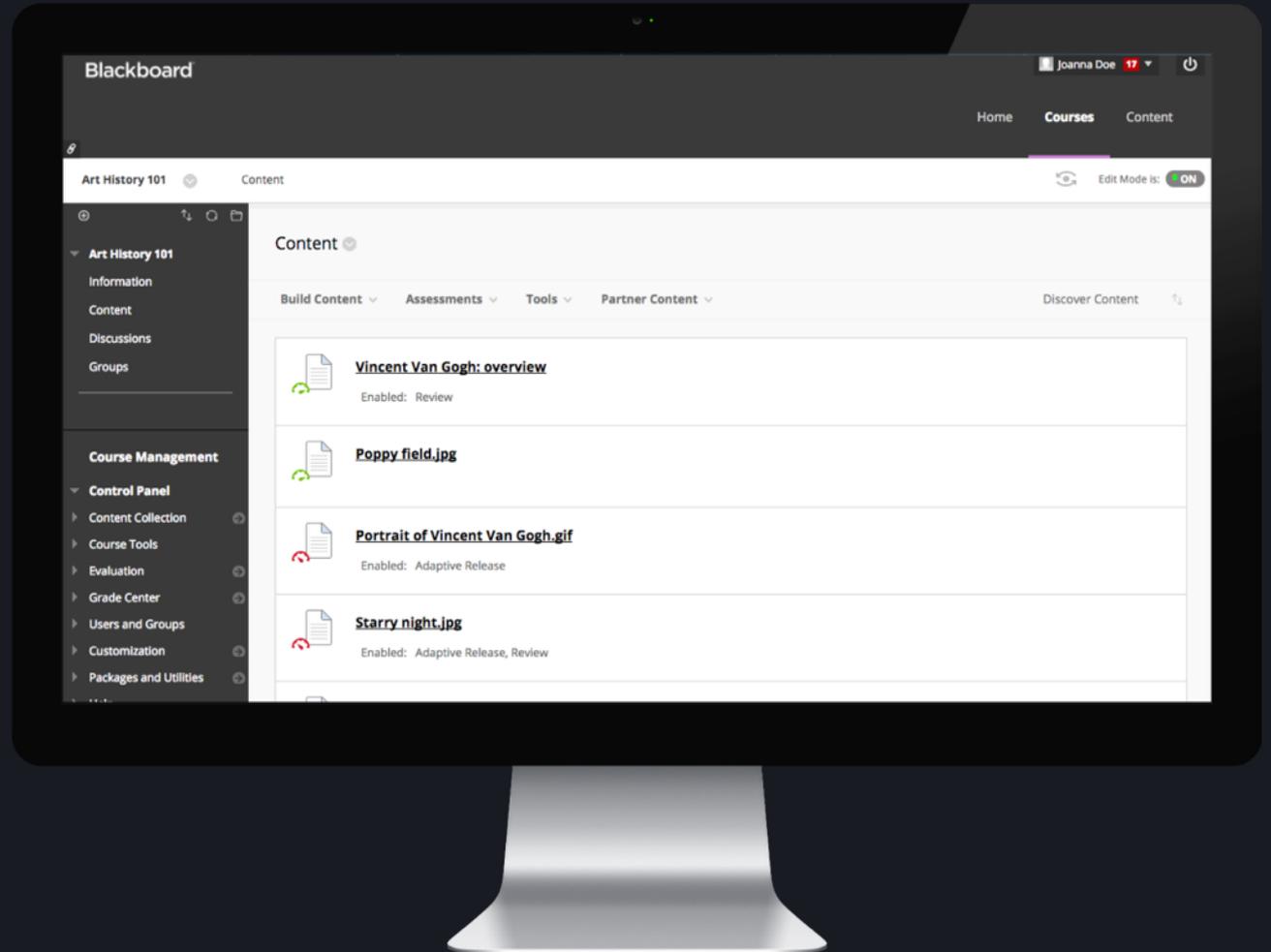
The Learning
Management System is
an important player in
this.

Committed to providing
Ally to everyone,
including non-
Blackboard products



Workflow

Instructor adds
course content
to course site



Automated accessibility checklist

Automated accessibility checklist based on content type

Based on WCAG 2.0 AA

Introduction.....	3
Birth of species.....	3
Biology is the science of life.....	4
<i>Properties of Life</i>	4
1. Order.....	4
2. Sensitivity.....	4
3. Growth, development, and reproduction.....	4
4. Regulation.....	4
5. Homeostasis.....	4

Introduction

Biologists are often asked what the definition of a species is. Before dealing with this question it is important to consider the differences between what a species is and how species come into being. The 'what' question deals with the main subject of this essay, how do you define a species. The 'how' question deals with processes and mechanisms.

I would like to write about this part first; partly because it is the really contentious and interesting part of the question and partly to clear up any misunderstanding between definitions (what) and mechanisms (how).

Species, at their most abstract, can be thought of individual historical entities. This is to say, like the most basic story outline, they have a beginning, middle and an end. Or, if you prefer, a birth, lifespan and a death. Just as all people do. So species, like people, exist at certain places and certain times.

Birth of species

How the birth of species comes about is a question of mechanism(s) that I will not go into in very much detail, but the key image to have is the notion of a single homogeneous population (group of individuals) that eventually gives rise to two distinct populations that can no longer combine their genetic material to give rise to more of their kind. The most widely accepted method by which this can come about is the subdivision of the single population into two subpopulations by the appearance of a geographic barrier (a mountain range, a new river) that can no longer exchange genes. As time passes then the genetic make-up of the two subpopulations could evolve enough to generate sufficient differences that would mean they are no longer two subpopulations, but are in fact different species. It should be clear that at least some time has to pass for enough



Machine learning algorithms

Full structural and visual analysis to learn semantics of document

Identify headings, heading structure, paragraphs, footers, tables, lists, mathematical formulas, etc.

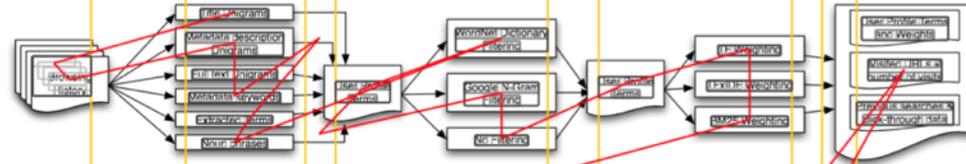


Figure 1: User Profile Generation Steps and Workflow

Table 1: Captured Data Statistics

Metric	Total	Min	Max	Mean
Page Visits	530,334	51	53,459	10,607
Unique Page Visits	218,228	36	26,756	4,365
Google Searches	39,838	0	4,203	797
Bing Searches	186	0	53	4
Yahoo Searches	87	0	29	2
Wikipedia Pages	1,728	0	235	35

Table 2: Extracted terms from the AlterEgo website and the Wikipedia page about Mallorca

AlterEgo	Mallorca
add-ons	majorca
Nicolaas	palma
Matthijs	island
CSTTI	spanish
Nicolaas Matthijs	balearic
Language Processing	cathedral
Cambridge	Palma de Mallorca
keyword extraction	port

Every time a user leaves a non-secure (non-https) web page, the add-on transmits the user's unique identifier, the page URL, the visit duration, the current date and time, and the length of the source HTML to the server. The server then attempts to fetch the source HTML of this page. This is performed server-side to ensure that only publicly-visible data is used! Once the source HTML is received, the server compares its length to the length received from AlterEgo. If the length difference is smaller than 50 characters, the

Title Unigrams

[The words inside any <title> tag on the html pages]

Metadata Description Unigrams

[The content inside any <meta name="description"> tag]

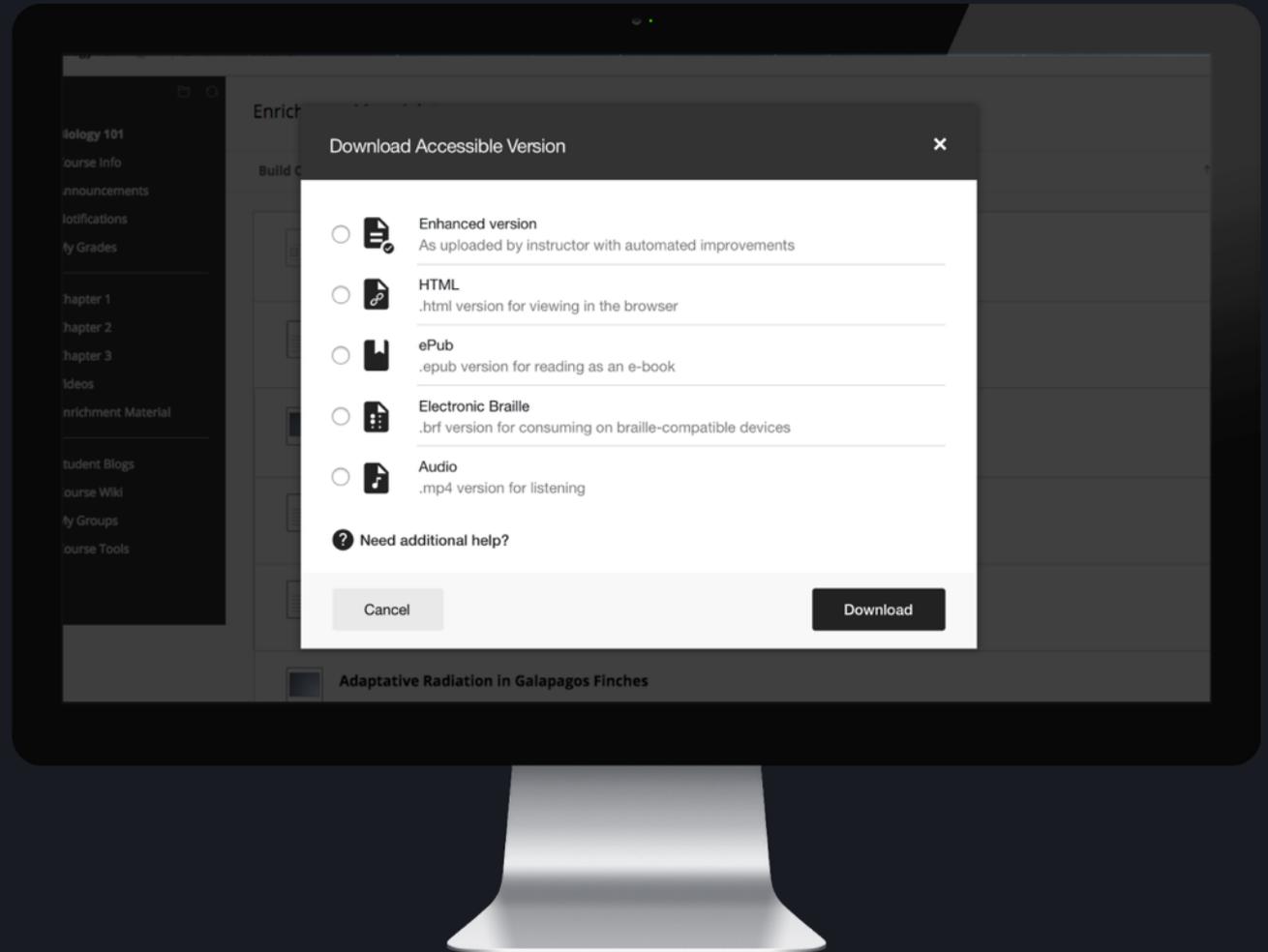
Metadata Keywords Unigrams

[The content inside any <meta name="keywords"> tag]

Alternative accessible versions

Semantic HTML
High quality semantic html version of the content

Other Alternative Formats
ePub, audio, electronic braille, etc

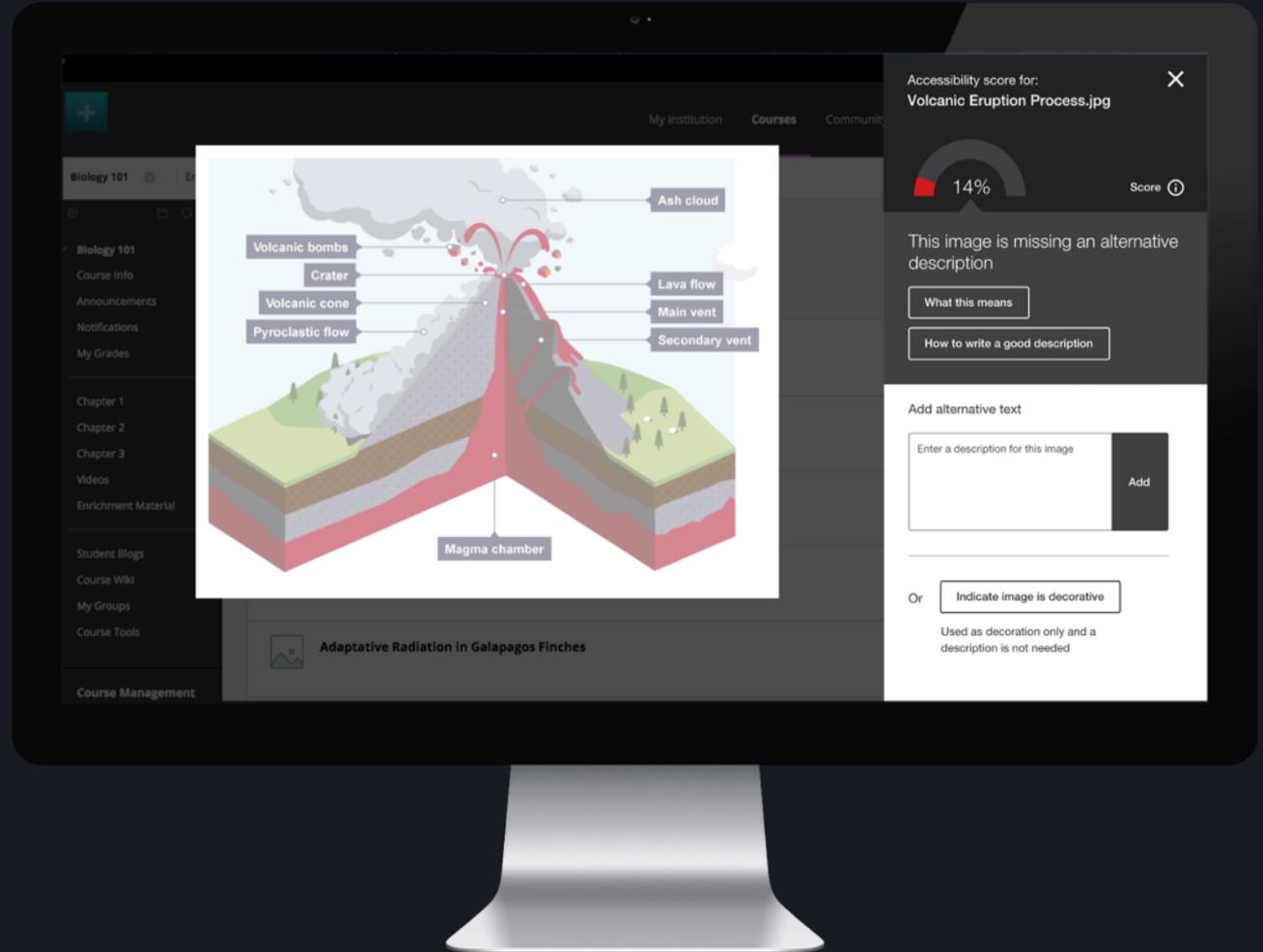


Instructor feedback

Provide feedback to instructors about accessibility of their course content

Provide guidance on how to fix accessibility issues

Aims to generate change in behavior over time

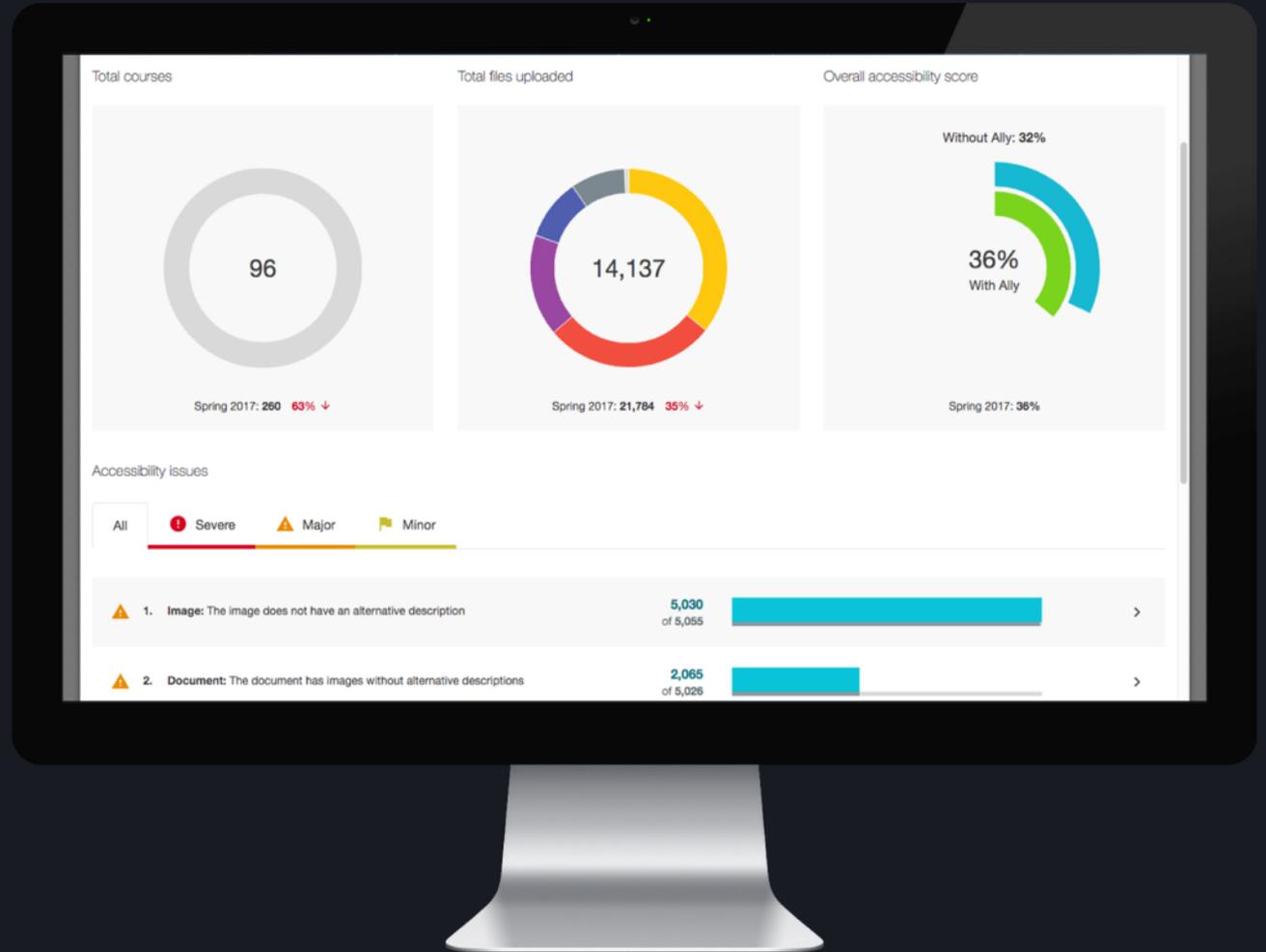


The screenshot displays a course management interface with a sidebar on the left containing navigation options like 'Biology 101', 'Course Info', and 'Chapter 1'. The main content area features a 3D cutaway diagram of a volcano with labels: 'Volcanic bombs', 'Crater', 'Volcanic cone', 'Pyroclastic flow', 'Magma chamber', 'Ash cloud', 'Lava flow', 'Main vent', and 'Secondary vent'. Below the diagram is a section titled 'Adaptative Radiation in Galapagos Finches'. An accessibility feedback panel is overlaid on the right, showing an 'Accessibility score for: Volcanic Eruption Process.jpg' of 14%. The panel includes a message: 'This image is missing an alternative description', buttons for 'What this means' and 'How to write a good description', and a section for 'Add alternative text' with a text input field and an 'Add' button. Below this, there is an 'Or' option with a button 'Indicate image is decorative' and a note: 'Used as decoration only and a description is not needed'.

Institutional report

Provide detailed understanding of how institution is doing

Helps identify where problem areas are, what to focus on, who to target, etc.



Demo

The image displays two devices showing educational content. The monitor in the background shows a Blackboard interface for 'Art History 101' with a 'Starry night.jpg' image. An accessibility overlay on the monitor indicates a score of 25% and provides options to 'Why this matters', 'How to write a good description', and 'Add alternative text'. The laptop in the foreground shows a dashboard for 'Fall 2016' with a line chart and three donut charts.

Monitor Content:

- Blackboard interface for 'Art History 101' showing 'Starry night.jpg'.
- Accessibility score for 'The starry night.jpg': 25%.
- Message: 'This image is missing an alternative description'.
- Buttons: 'Why this matters', 'How to write a good description'.
- Section: 'Add alternative text' with an input field and an 'Add' button.
- Option: 'Or Indicate image is decorative'.
- Text: 'This image is used for decoration only and a description is not needed'.

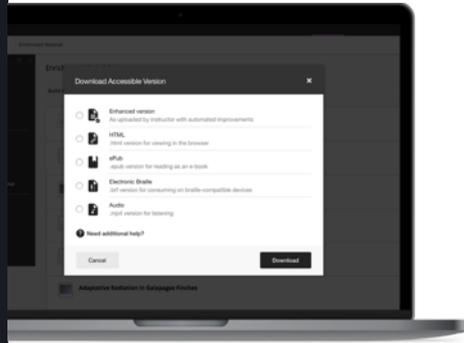
Laptop Content:

- Line chart showing data from Fall 2014 to Spring 2017.
- Section: 'Fall 2016' with three donut charts:

 - Total courses: 6,948
 - Total files uploaded: 253,896
 - Overall accessibility score: 56% (Without A11y)

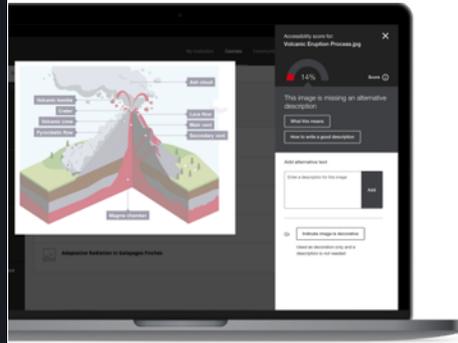
Alternative accessible versions

Automatically checks for accessibility issues and generates alternative accessible formats.



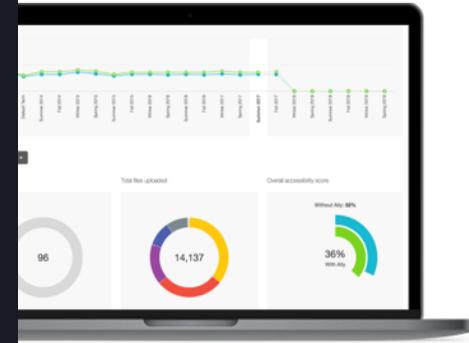
Instructor feedback

Guides instructors on how to improve the accessibility of their course content and alters future behavior.



Institutional report

Provides detailed data and insights to help further improve course content accessibility at the institution.



Included in Ally license

LMS integration



Technical integration support



Report orientation and admin training



SLA & Support



Use of 3rd party services (OCR, Audio)



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