AlekSIS® – The Free School Information System

FOSDEM 2022, Public Code Dev Room · 2022-02-06

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Agenda

- About AlekSIS, schul-frei, and Teckids e.V.
- Features and roadmap
- Design and development principles
- Working with partner schools
- Digital education using AlekSIS
- How to join

About AlekSIS, schul-frei, and Teckids e.V.

About AlekSIS

- School Information System
- Web-based (Django, Material Design, PWA)
- App framework for extensions
- Entirely free software
  (European Union Public Licence 1.2+)
- Developed by software engineers, students, and teachers

The schul-frei project

- Curates high-quality FOSS for education
  - Usability for particular purposes
  - Good integration
  - Good support
- Advises schools on establishing FOSS ecosystems
- Helps young people to get started as FOSS contributors

Teckids e.V.

- The Free Software youth organisation
- Founded in 2013 in Germany
- Emphasis on youth participation in the digital world
- Apart from schul-frei: Coding/tinkering summer camps; pedagogic concepts based on free, open, digital tools

AlekSIS’ features in 2021.12 «Bruner»

Basics of an SIS

- Managing and providing information and data
- Class/course lists, plans, organisation,…
- Strictly not: anything non-organisational
  - Video conferencing, online courses,…

Structure of AlekSIS

- AlekSIS Core
- Official apps
  - Supported and shipped with default distribution
- Onboarding apps
  - Being brought in line with official apps
- Unofficial / third-party apps

AlekSIS Core

- Managing persons and groups
  - Students, teachers, classes, courses,…
- Basic information about school
- Dashboard
- Preferences
- Authentication
- Utilities for app development
  - Permissions, database model utilities, base templates,…

Heinrich-Heine Gymnasium der Stadt Dortmund

Search

- Dashboard
- Notifications
- Account
- Admin
- People
- Documents
- Timetables
- Class register

Harry-App

Logged in as teckidsgeorge Logout

EDIT DASHBOARD

CLOUD

MAIL

MOODLE

BOOKING

WIKI

HILFE

You didn't customise your dashboard so that you see the system default. Please click on "Edit dashboard" to customise your personal dashboard.

Language

English

About AlekSIS® — The Free School Information System © The AlekSIS Team

Chronos: Lesson plans

- Regular timetables
- Substitutions
  - Including smart plan
- Extra lessons, events, etc.

- Dashboard
- Account
- Timetables

AlekSIS

Logged in as alb Logout

My timetable

SMART PLAN

SHOW WEEK TIMETABLE FOR ALB

Tuesday, Sept. 28, 2021

	Montag Sept. 27, 2021	Dienstag Sept. 28, 2021	Mittwoch Sept. 29, 2021	Donnerstag Sept. 30, 2021 Herbstferien	Freitag Oct. 1, 2021 Herbstferien
1. 8 a.m. 8:45 a.m.	5c-Ek **Ek** 004	Eb-DE ALB **DE** 209 *Klausur*	-Verf. **Verf.**		
2. 8:45 a.m. 9:30 a.m.	5c-Ek **Ek** 004	Eb-DE ALB **DE** 209 *Klausur*	Eb-DE **DE** 209		
3. 9:45 a.m. 10:30 a.m.	7b-Ek **Ek** 007	8b-De **De** 107	Ea-Ek ALB **Ek** G11		

Alsijil: Class register

- Lesson documentation and notes
- Homework
- Class roles
- Personal notes
- Absences

AlekSIS

Logged in as admin Logout

PERIOD PERSONS MORE

Search

- Dashboard
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- People
- Timetables
- Class register
- Documents

WEEK VIEW

01/17/2022, 3. period

5a-Ek, Ek, MAY

PREVIOUS EK LESSON

NEXT EK LESSON

Lesson documentation

Lesson topic

United Kingdom

Homework for the next lesson

Learn map of UK

Group note

SAVE

Dashboard feeds

- Provide external resources on the dashboard
- RSS feeds
  - e.g. a school’s or external news feed
- iCal feed
  - School calendar

NASA

La NASA invita a los medios al lanzamiento del nuevo mega-cohete y nave espacial lunares

Ya está abierta la acreditación de medios de comunicación para las actividades de pre-lanzamiento y lanzamiento relacionadas con la misión Artemis I de la NASA, la primera misión desde Apolo de sistemas de exploración construidos para llevar tripulación a bordo que viajará alrededor de la Luna.

READ MORE

FURTHER ARTICLES →

Integrations

- LDAP
  - Authentication and import of personal information
- Untis
  - Import timetables and substitutions
- CSV
  - Import personal information from CSV-like data

Furthermore…

- PDF generation
  - Manually and scheduled, e.g. for digital signage
- FAQ/support system
- Time-based documents
  - Weekly meal plans under stable URLs

Roadmap for 2022.6 «Cohn»

Integration with Matrix/Element

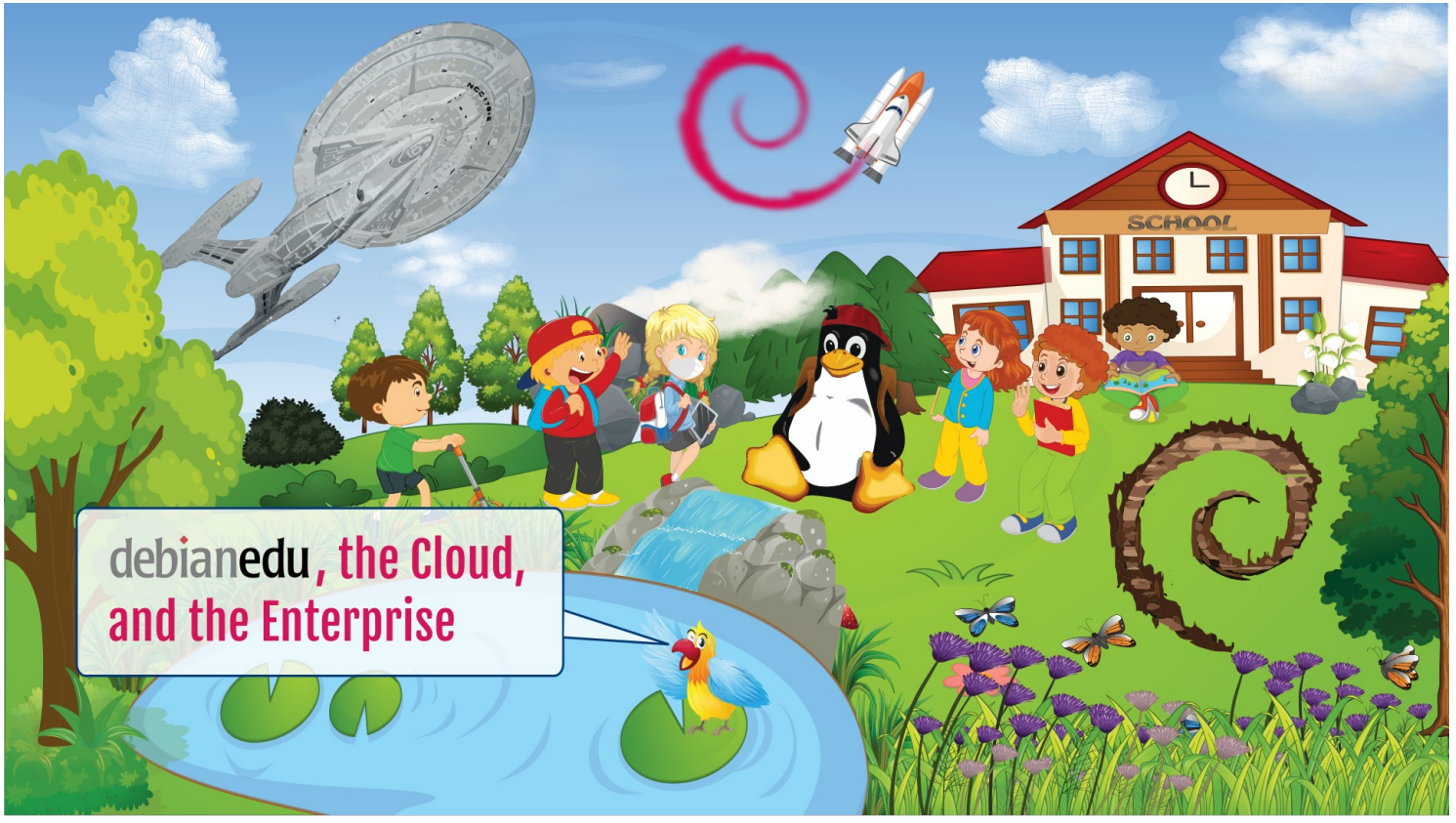
- Manage spaces and rooms for group structures in AlekSIS
- Maintain participants and moderators of rooms
- General idea:
  - Import classes, courses, students from your your school management software
  - Get AlekSIS+Element+whatever synced immediately

Kort: Student ID cards, RFID

- Creation and registration of RFID cards in AlekSIS
- Printing of student ID cards (with and without RFID)
- API for systems using cards for authentication

Kompjuter: Debian Edu integration

- Manage desktops, tablets, laptops
- Manage software and configuration
- Make Debian Edu cloud-/SaaS-friendly
- Side projects:
  - Generic FAI Web API backend
  - Generic NSS/PAM Web API client


SCHOOL
debianedu, the Cloud,
and the Enterprise

Design and development principles

Stable and secure software solution

- Tandem development (developer+maintainer)
  - Mandatory reviews
- Emphasis on stability
- Growing and improving test suite
- Helping schools enable privacy

Fostering junior development

- Extensible/modular codebase
- Development handbook
- Django text-book example
- Learn coding by digitsing something relevant in your school!

Working with partner schools

Collecting knowledge from the field

- Every school is different
- Developers have few or no practical experience
- Students, teachers and parents know best how they want to work

Making FOSS visible

- Free Software is all about participation
- Licenses and all that are subordinate for most teachers and students
- Practical participation and invididual digitisation is the most important feature of FOSS!

Digital education using AlekSIS

Coding clubs/classes

- Python is a good programming language for learning
- Students can be encouraged by developing something that will actually be used
- Digitse your school as a team!

Term papers

- Develop an AlekSIS app as practical work in a term paper
- Contains many relevant topics from German informatics curriculum
- Term papers become more than throw-away work

How to join

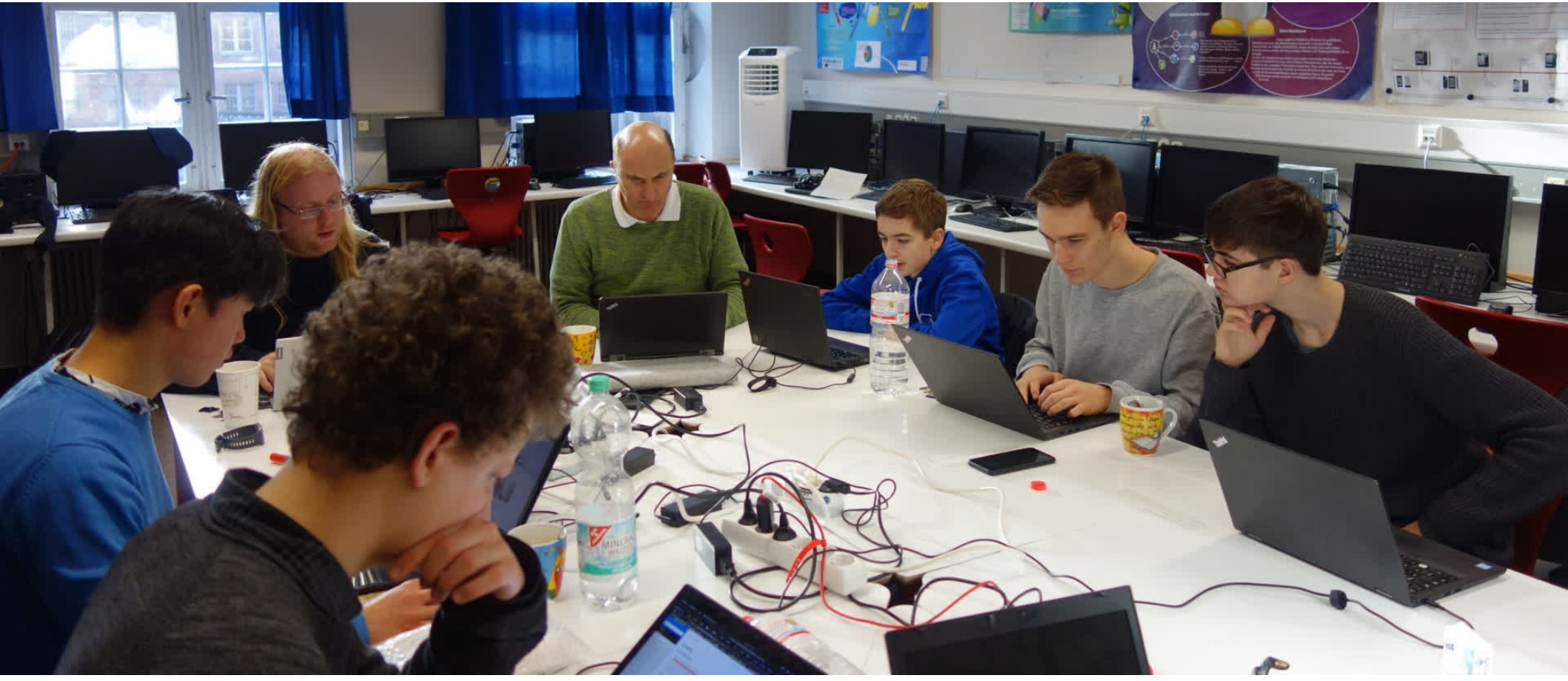
Non-German schools

- We need experience from school systems outside Germany. This means:
  - Schools open towards FOSS
  - Staff open towards participating in a project (with the reward of a cool school platform)
  - Multipliers with some free time for communication between AlekSIS and schools
  - Developers open for a new codebase and working with schools

Fostering companies

- Companies who want to donate money or development time
  - With the reward of beign able to later provide commercial support for schools
- Donations to Teckids to foster young developers

ALEKSIS
ALEKSIS



Links

Debian Edu talk

What else we do at Teckids

Code on EduGit

Donating