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Keeping
Schools
Open
COVID-19

LARS – An Integrated Wellbeing Software Platform



Now joining the fight against the COVID Pandemic

Lemonade's team of software engineers took on a sizeable challenge with the transformation of the CLB's data from paper to electronic format in 2009. Not only collating the data of all 2 ½ to 18 year old pupils in the Flanders region of Belgium, but also interfacing with professionals from 4 different fields, taking multiple inputs and presenting data in a clear and usable format. 11 years on, the LARS platform handles 4000 users and 1.2 million pupils data, with an average of 30,000 records being touched each day.

lemonade.be/cases/lars

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Lemonade's LARS software platform was developed for CLB in the Flanders region of Belgium. It enables electronic, integrated pupil support and allows CLB centres to collect, store and access key pupil data across the areas of education, welfare, health and careers.

And now, 11 years after the project was first initiated, the LARS software platform has been updated and deployed in the fight against the COVID-19 pandemic on behalf of the local Flanders and Belgian national government.

That's because it is ideally-placed as an efficient and effective resource for track & trace requirements, fast-testing for the virus and for the roll-out of vaccination among pupils aged from 2 to 18.

LARS – helping to keep schools open.

Lemonade's challenge

Back in 2009, Lemonade's team of software engineers were tasked with transforming the CLB's data from paper to electronic format. This meant collating the data of all 2-18 year-olds in Flanders. But the software also had to enable an interaction with professionals from four different fields, allowing them to access through a clear user interface and to create, edit and interpret the data.

Lemonade Success Verticals



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Collaboration and the fight against COVID

One key to the success of the LARS software development over time has been the strong collaboration with the CLB Network.

Acting as a mediator, Lemonade enabled the key collaboration connecting the stakeholders, businesses and technical systems to deliver valuable functionality.

The Lemonade team were represented in the steering committee, not only collaborating in development decisions but also gaining insights into the issues behind the service they are providing. The close working relationship contributes to continuous improvements and enhancements of the application and periodical releases. And it is this collaboration which has led to the LARS software platform being deployed in the fight against COVID.

Keeping schools open during the pandemic

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The LARS software platform has been designed as an interface between a range of key stakeholders; and is the focal-point between education, physical health & mental well-being, welfare and careers planning – putting the individual pupil at its centre.

That means its is an ideal tool to deploy in the fight against COVID-19, to help keep schools open. So, how does LARS help?

- + Enables contact-tracing in schools, processing data in LARS and communicating to all stakeholders including the Care & Health Department.
- + Identifies pupils in high-risk groups and informs government of potential positive contact.

- + Links-up with test-centres to enable fast-track testing for pupils aged 12 years and over.
- + Communicates test-results and creates appropriate follow-ups to the pupil, family, school and health authority.
- + Monitors self-isolation from schools.

PLUS...

- + Existing, proven vaccination-tools will be deployed to co-ordinate COVID vaccination as it becomes available.
- + Additional mental health support has now been included for difficult domestic situations due to the pandemic.
- + Supply of relevant data to appropriate government agencies via a direct feed.

Lemonade constructively challenged the client to disrupt their standard process and open doors to new possibilities, new tools and new integrations. The result was a more manageable platform structure.

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Additional integrations for fighting COVID-19

- + Integration with e-health for free PCR prescription code.
- + Integration with Care & Health Department to communicate positive results.

Multiple integrations key to success

Creating the links to multiple data sources and ensuring the integrity of the resulting database has been a key challenge for the project. Examples are the eHealth system where the formative data of 0 – 2 ½ year olds is collated and Discimus where the curriculum information feeds from. In addition some of the data comes from Government departments which increases complexity.

A significant win for the team was enabling the use of Kafka with MongoDB. Lemonade has facilitated a simple and cost effective state management for the LARS microservices, gradually transforming their trusted 10 year old monolith application into independent, scalable microservices.

All microservices communicate through Kafka in an event driven way. This was a step change for the system, being easy to scale out, easy to add new functionality and easy to deploy.



Fit for purpose User-Interface

By making the system cloud based and therefore available online, everything is managed centrally and no installation is needed at the CLBs. It has also ensured development can be ongoing, including the UI.

Over time the user interface has evolved, despite the budget constraints. The system must support considerably different user needs, from simple record access, to specialist professional intervention and monitoring for trends and changes from managers. All of this sits on top of a high demand of data availability and system reliability.

The image displays a collage of screenshots from the 'lars' system interface, overlaid on a background image of a woman looking at a laptop. The screenshots are annotated with yellow callout boxes highlighting key features:

- My Activity**: A dashboard showing various activity logs and filters.
- Vaccination / Health history**: A detailed view of a pupil's medical records, including vaccination status and health history.
- Calendar**: A calendar view showing dates and associated events or appointments.
- Pupil development**: A section for tracking a pupil's progress and development over time.
- Risks / Considerations / Actions**: A callout box pointing to a section in the interface for identifying and managing risks.
- Single page pupil overview**: A central dashboard for a specific pupil, showing recent activities, remarks, absences, and personal information.
 - Recent activities / interactions**: A callout box pointing to the 'Recent Activities' section.
 - Pupil health statistics**: A callout box pointing to the 'Medical' section, which displays height (150 cm), weight (40 kg), and BMI (17.78).
 - Attendance**: A callout box pointing to the 'Absences' section.
 - Key contacts**: A callout box pointing to the 'Personal' section, which lists contacts like 'Leering - Office' and 'Parent 2'.
- Pupil group management**: A section for managing groups of pupils, including search and filter options.
- My Activity**: Another instance of the activity dashboard.
- Medical summary page**: A summary page for a pupil's medical history.
- Persona contact information**: A section for managing contact information for different personas.
- Pupil medical activity**: A section for tracking a pupil's medical activities.

A complex service environment

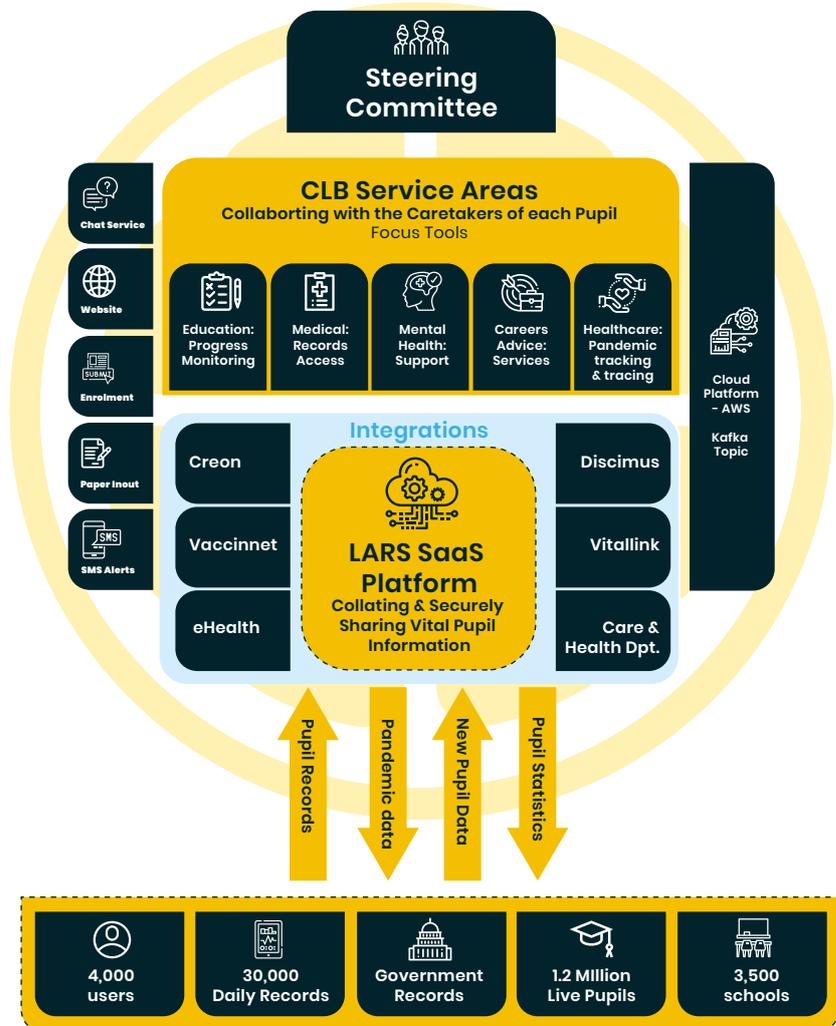
The LARS platform sits at the heart of the CLB services, receiving new records, triggering pupil follow ups, monitoring priority records and delivering data insights.

The LARS software platform has proved to play a vital role in pupil's lives. And today, it is actively helping in the fight against COVID and the up-coming vaccination programme. It is a role that was unforeseen at the start of development but we are proud to be supporting government at this critical time.

A focused team of software engineers has been involved throughout the development of LARS from 2009 to present day. With a results focused approach it has ensured efficiency and strong return on investment for the CLB.

Discover the LARS software platform

Fully updated for the fight against COVID-19



Into the future

Apart from the significant updates to LARS required to help the fight against COVID, general development and management is ongoing, with upgrades to the user interface and functionality, and the LARS team will be working toward a broadening of its implementation across the academic sector. While the platform is fundamentally about people's well-being and is managed by the education authorities in Belgium, financial constraints are a dominating topic. Regardless of this, expansion and enhancements are in discussion, with the goal of further delivering to the ultimate beneficiaries, the pupils. There are also other government agencies that could both contribute to and benefit from involvement with the platform.

The LARS achievement



The solution ensures effective availability of information and provides insights that are next generation compared to the position of before we created LARS. Its success is testament to the advanced skills and experience of Lemonade's team of engineers, building the integrations, tools and interfaces; and updating the platform to help in the fight against COVID.

Applications



As a premium tool for monitoring and managing the wellbeing of very large groups of people there are numerous potential uses for LARS. Not only education and healthcare, but social services, infrastructure and large industry, could all take significant benefit.

Lemonade are excited to talk to any organisations that recognize both the social and commercial benefits of this care tool.



Do you need a software solution

that can handle sensitive data effectively and securely?



Are you concerned about

handling multiple software integrations efficiently?



Does your business

need to put greater control in place for data compliance?



Lemonade has the skills and resources to help you maximise efficiency and results.



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