weduc®
Smart Communication

HM Government

G-Cloud

Service Definition

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Weduc Overview

Weduc is a new generation of Staff Engagement product developed specifically for the “cloud” era. Agile in software development, deployment and implementation our software is used by Clients in both the Public and Private sectors.

Weduc has developed an app and platform that allows schools to consolidate communications, payments, booking systems, absence reporting, attendance and paperless forms into one central system.

Using a single sign-on a school can communicate, manage and report from one easy to use console and app.

Weduc can help schools that are:

- Fed up with disparate systems that do not talk to each other
- Concerned with the mounting costs of text messaging
- Uncertain about complicated transaction fees
- Wanting to improve levels of parent engagement
- Determined to improve attendance and attainment
- Passionate about their parents' experience

Weduc can provide targeted two way back office communications whilst sharing classroom activity, dramatically improving the parental experience when receiving or communicating with the school.

Many parents prefer social media so Weduc has designed the platform with a Facebook-style feel that is really popular, some of our schools have reported an increase of up to 80% better engagement.

By moving away from multiple systems and old communication technologies, Weduc is confident they can reduce costs, improve the schools' efficiency and excite parents with an app that delivers everything a parent wants to know in one place.

Effective Communication

Reporting & Management

Share Digital Resources

Communication & Engagement

Communication & Engagement

Weduc is the next generation in communication for schools and colleges. Ensure that you reach the right people, with effective communication, tracked and monitored.

Email Messages

Easily manage emails both in and out of school

Newsfeed Posting

Easily share multimedia across devices in a controlled social learning network

SMS Text

Send two-way text messages on mass or individually

Push Notifications

Notify mobile users of new, relevant activity straight to their mobile device

Action Messages

Send permission and invitation messages that require a recorded response

Payments

Online payment system that can be used to make a variety of school payments

Reporting and auditing

Weduc promotes open collaboration and engagement, while giving control to those who need it.

Permission and Group Administration

Control who can view, edit and engage with all areas of Weduc

Assessments and Policies

Track and report on results of communications and forms

Action Messages

Send permission and invitation messages that require a recorded response

Usage Reports

Track usage and measure statistics around activity

Infrastructure Background

Weduc Software is hosted from Amazon Web Services.

In reviewing the market, Weduc has chosen AWS as their hosting partner due to scalability and security of offering. AWS is clearly market-leading. In a recent survey, Gartner has placed AWS as a clear leader in IaaS.
This proactive approach allows the Weduc team to not only monitor the performance of the system, but will identify issues before our customers do. Should further processing power be -required, due to the volume of customers and parents processing forms and images at any particular time, then additional computing resources can be quickly added either by scaling up or scaling out. This degree of flexibility set apart the AWS service from other hosting providers thus ensuring that Weduc customers get a good service at all times.

Figure 1: Magic Quadrant for Cloud Infrastructure and Platform Services

Physical and Environmental Security

AWS' data centres are state of the art, utilizing innovative architectural and engineering approaches. AWS has many years of experience in designing, constructing, and operating large-scale data centres. This experience has been applied to the AWS platform and infrastructure.
AWS data centres are housed in nondescript facilities. Physical access is strictly controlled both at the perimeter and at building ingress points by professional security staff utilizing video surveillance, intrusion detection systems, and other electronic means. Authorized staff must pass two-factor authentication a minimum of two times to access data centre floors.
All visitors and contractors are required to present identification and are signed in and continually escorted by authorized staff. AWS only provides data centre access and information to employees and contractors who have a legitimate business need for such privileges. When an employee no longer has a business need for these privileges, his or her access is immediately revoked, even if they continue to be an employee of Amazon or Amazon Web Services. All physical access to data centres by AWS employees is logged and audited routinely.
The data centre electrical power systems are designed to be fully redundant and maintainable without impact to operations, 24 hours a day, and seven days a week. Uninterruptible Power Supply (UPS) units provide back-up power in the event of an electrical failure for critical and essential loads in the facility. Data centres use generators to provide back-up power for the entire facility
Fire detection and suppression as well as climate control and temperature monitoring is actively managed. For more information on the AWS physical security please go to
http://d0.awsstatic.com/whitepapers/Security/AWS_Security_Whitepaper.pdf

Availability Zones

Availability Data centres are built in clusters in various global regions. All data centres are online and serving customers; no data centre is "cold." In case of failure, automated processes move customer data traffic away from the affected area. Core applications are deployed in an N+1 configuration, so that in the event of a data centre failure, there is sufficient capacity to enable traffic to be load-balanced to the remaining sites.

Weduc is hosted in the London data centre and split across 3 availability zones. Each availability zone is designed as an independent failure zone. This means that availability zones are physically separated within a typical metropolitan region and are located in lower risk flood plains (specific flood zone categorization varies by Region). In addition to discrete uninterruptable power supply (UPS) and onsite backup generation facilities, they are each fed via different grids from independent utilities to further reduce single points of failure. Availability zones are all redundantly connected to multiple tier-1 transit providers. Distributing applications across multiple availability zones provides the ability to remain resilient in the face of most failure modes, including natural disasters or system failures.

"AWS is the overwhelming market share leader, with **more than five times the compute capacity** in use than the aggregate total of the other

Supporting Infrastructure

Weduc uses Amazon's VPC, EC2, ECS, EFS, Elasticache, S3, ELB, Elastic IPs, KMS, Route53, SES and CloudWatch technologies.

Weduc provides the following support services as part of this Infrastructure:

- Server monitoring & administration
- Data storage & backup
- Data archiving
- E-mail & SMS services
- Network Security
- Disaster recovery
- User Help Desk & UAR administration

Shared Solution

The system is deployed as a Shared Service and thus can provide scalability and economies of scale allowing rapid implementation. Although the infrastructure is shared, the data is kept confidential and therefore segmented between each individual customer. Only the customer and the Weduc team will have access to any data.

Scalability

The above resilient architecture allows Weduc to monitor and manage the load on the servers as well as monitoring the potential bottleneck in both the servers and networks. (Please see the section on Performance Monitoring). We are able to flex up and increase the number of processor cores, system memory, disk space and network bandwidth remotely in less than an hour or even flex out by adding additional instances. During peak times additional server instances maybe brought online to help distribute the load.
In the last 12 months, Weduc has processed 250,000 users engaged in a communication process. We would not have been able to so easily scale the system and react quickly to rising demands if the infrastructure management was outsourced to a third party.

Information Assurance

AWS have a wide range of compliance standard which cover, but are not limited to:

- HIPAA
- SOC 1/SSAE 16/ISAE 3402 (formerly SAS70)
- SOC 2
- SOC 3
- PCI DSS Level 1
- ISO 27001
- FedRAMPSM
- DIACAP and FISMA
- ITAR
- FIPS 140-2
- CSA
- MPAA

Further information about AWS risk and compliance can be found here
http://aws.amazon.com/compliance/
Weduc follow best practice security policies throughout all of its hosted service solutions. All network traffic, inbound or outbound passes through firewalls which are configured to only allow agreed addresses and protocols. The security of Customer systems is ensured by using VLAN technology which separates groups of virtual servers into logical networks and network traffic. Firewalls protect these VLANs and virtual services and only allow traffic to pass into or out of a device if a specific security rule allows.
Amazon Elastic Load Balancer Appliance is deployed as an Application Delivery Platform, terminating all Customer requests. This device provides intelligent Load Balancing services as well as essential network firewall services, protocol security and cookie encryption.
Weduc system uses cryptography classes available through .net framework for all the request received through website and response provided from back end. All the data transfers happen through secured tunnel encrypted by SSL certificate.
Data is also encrypted at standstill using Amazon's KMS technology https://aws.amazon.com/kms/
Weduc provides protection against Malware from both a network standpoint via an Intrusion Prevention System on the inner firewall cluster, application security exploit protection on the perimeter load balancer as well as on all servers on the network utilizing industry standard protection. This covers not only anti-virus but extends to cover spam, phishing and functions as a host intrusion prevention product.

Web Application Firewall - CloudFront

Web Application Firewalls work to protect against unauthorised access to a website or application. A WAF can work to help protect all incoming and outgoing traffic and can automatically filter out known malicious web traffic as it gives us better control to decide who we want to block from the site.
A WAF proactively protects websites and applications against fraud or data theft; blocking suspicious activity. Inspecting every web request for cross-site scripting, SQL injection, path traversal and other types of attack, this protection endeavours to ensure that your data, and your customer's data, remains secure. In summary WAFs protect against;

- SQL injection, comment spam
- Cross-site scripting (XSS)
- Distributed denial of service (DDoS) attacks
- Application-specific attacks (WordPress, CoreCommerce) and many more

Further information can be found at https://aws.amazon.com/waf/

Cyber Essentials

Weduc is accredited with Cyber Essentials annually. Whilst this standard is promoted by the UK Government, it is an important accreditation for all customers as it not only includes the standards for infrastructure security but extends to the wider organisation involving our employees.

More information can be found can be found here
https://www.ncsc.gov.uk/cyberessentials/overview
https://www.gov.uk/government/publications/procurement-policy-note-0914-cyber-essentials-scheme-certification

Development Standards

The Weduc platform is maintained and developed in the UK by Weduc employees, following industry best practice change management and development processes. We follow the guidelines and patterns set out by the AWS Well-Architected frameworks for SaaS platforms.

Our development team follow and Agile approach. Work is packaged into two week 'sprints' giving us to have short, low-risk release cycles. Code changes are peer-reviewed by a team leads to ensure code quality, correctness, and maintainability. All changes to the source code and infrastructure are documented by tickets in our issue tracking platform so we can track what changes have been made and why.

Our QA team will also document any relevant test-plans constructed for this change and the tests that were run to verify that the change is working as intended. We use AWS CodeCommit for source control which allows us to work in a team and minimise the risk of conflicting code changes. Our source control system allows us to track the full history of our codebase and includes the commit comments from the developer who made the change. All changes are tested by our QA team prior to a release being signed off. We use AWS CodeBuild and CodeDeploy to build and deploy changes to the platform.

Background Screening

All Weduc employees have undergone DBS / Disclosure Scotland checks upon appointment these include:

- Basic DS checks for unspent convictions
- DBS/DS checks for convictions, cautions, final warnings, and other police records.
- DBS/DS checks which, over and above enhanced checks, provide details of any child and adult barred listings.
- Enhanced DBS/DS checks on members of staff with further access

We use a third-party auditor, Due Diligence Checking Ltd (https://www.ddc.uk.net/about-ddc/) to conduct these background checks.

Business Continuity and Disaster Recovery

Weduc's Business Continuity and Disaster Recovery (BCDR) process comes in two parts. The first to ensure that our customers remain operational and the Weduc system will continue to operate as expected during a business disaster event and the second is that the Weduc business itself will continue to function and support the customers after an event.

BCDR for Weduc Customers

Weduc includes backup and recovery procedures to ensure system availability and data retention in the event of a system failure or disaster occurring. Weduc stores data in Amazon EFS and Amazon Aurora Postgres. Both services replicate data across the 3 availability zones within the AWS London Datacentre. No data is stored in ECS containers or on our EC2 instances.

All data stored in Redis is a cached copy of data that is stored in the database. This simplifies our data recovery and disaster recovery process by minimising the number of endpoints and services we need to store snapshots for. Data is written in 2 locations in each availability zone giving 6-way data redundancy.

Amazon RDS continuously monitors the health of the database. In the event of database failure, Amazon RDS will automatically restart the database and associated processes. Amazon Aurora does not require crash recovery replay of database redo logs, greatly reducing restart times. It also isolates the database buffer cache from database processes, allowing the cache to survive a database restart.

Each 10 GB chunk of the database volume is replicated six ways, across three Availability Zones. Amazon Aurora storage is fault-tolerant, transparently handling the loss of up to two copies of data without affecting database write availability and up to three copies without affecting read availability. Amazon Aurora storage is also self-healing; data blocks and disks are continuously scanned for errors and replaced automatically.

We use the AWS Backup service to ensure we have consistent snapshots of the filesystem and database. Backups are stored in AWS Backup Vaults. Each backup vault has an associated KMS encryption key which is used to encrypt/decrypt backups. Our backup retention policy ensures that we always have the following backups available for all of our data;

- Daily for 35 days.
- Weekly for 3 months.
- Monthly for 7 years.

Backups can be recalled on-demand and will be online within around 15 minutes. All data including backup data is held within Amazon's environment located inside the UK. Weduc continually invests in improving the infrastructure and managed service capability carrying out regular technology reviews to keep the systems up-to-date.

Weduc Availability

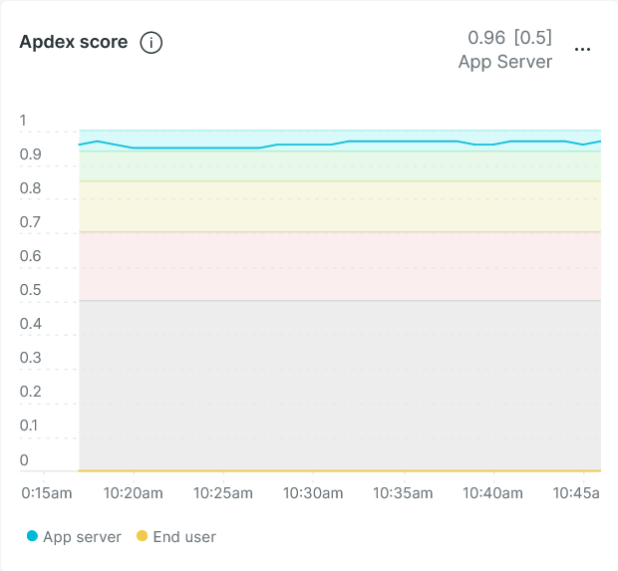
In addition to the performance monitoring of the service Weduc also monitors outside of the infrastructure environment to measure availability (uptime) and response times.
Our target uptime is 99.9% inside **Working Hours** (Monday – Friday excluding English Bank Holidays).
Our software updates are typically every 2-4 weeks and for the majority of software updates, we are able to keep the users running whilst the update occurs, but on occasions it is necessary to take the system offline when making fundamental database and architectural changes.

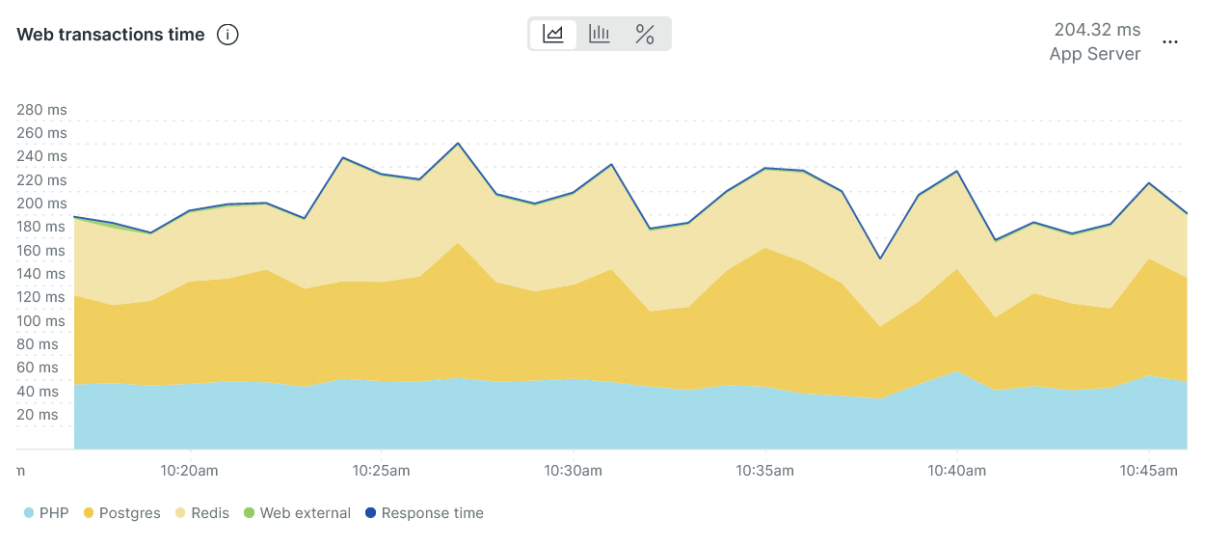
Response Times

Weduc's target response time for accessing screens of the Weduc software platform is within 3 seconds (at a minimum) 99% of the time.

The target response time for simple searches for information and displaying results within the system is within 5 seconds 95% of the time.

Please note that these response times exclude network latency and Customer internet connections and can impact performance.





Service Management

Introduction

Weduc provides service management based on ITIL principles, complying with defined standards of service levels including support response times, defect resolution, maintenance updates, system upgrades and change controls.
The customer will receive full maintenance for the overall solution which may include software and database updates, fixes and support for any new functionality that has been developed specifically for the customer.
The system tools adopted allow the System Manager to monitor the performance and availability of individual components of the system. Any alerts requiring escalation are passed to technical experts in the appropriate areas.

Software Updates

Weduc are continually working to update our system to include new features, improved functionality and to eliminate bugs. All of our software updates are planned according to our product roadmap (long term product plan) and are delivered through development sprint cycles (mini projects).
Product and software updates are derived from; market and competitor analysis, issues and improvements noted in our quality assurance processes and also valuable client feedback. Weduc typically issues one software update per month.
There should be minimal disruption to the service during updates, with system users notified in advance of an update, when logging into our system. The majority of our updates can be carried out whilst users are still on the platform resulting in minimum service downtime.
Our updates are grouped as either; new features, enhancements or bug fixes and full details are shared on our knowledge base and Customer newsfeed upon release.
App updates will be released on Google Play and the Apple App Store as required.

Technical Requirements

As the system will be accessed via a web-browser, no software needs to be installed, allowing users of standard operating systems to access the system, as long as they have an Internet connection and a supported web browser.
Supported mainstream product are:

- Edge Chromium
- Mozilla Firefox
- Safari
- Chrome
- Opera

Note that other browsers, whilst not officially supported, may work with little or no issue.
Concerning our mobile app, we currently support IOS and Android. Links to these, with our current support version, are;
https://play.google.com/store/apps/details?id=com.accrosoft.weducmobile
https://apps.apple.com/gb/app/weduc/id1228602867

Bandwidth Requirements

As with any browser based system, the greater the bandwidth that the end user has available the faster their connection will be to the hosted server side application. The time required to upload/download documents will be dependent on the document size and the speed of the internet connection.
Weduc will operate across as low as a mobile 3G network, if required.

Service Levels

Tickets raised to Weduc through; our Help Centre platform, directly into the ticketing system via Knowledgebase, or by phone, chat and email are assigned a status that will be used to track our performance in meeting our target service standards.

User requesters can specify the priority of their request when raising a ticket, based on the impact to your business or if a deadline is approaching. The support team will use reasonable endeavour to resolve a support request within the target resolution or provide the requester with an alternative resolution or workaround. Weduc retain the right to reclassify a ticket priority on reviewing the request in full and may request additional information prior to starting work on a request.

Response Times

Priority	Response Time	Request Description	Target Resolution
Urgent	< 2 working hours	Critical business impact: Events in this category include inaccessibility to the Weduc platform or a module that is offline, with no known workaround available to end users.	Technical Resolution < 1 working day
High	< 2 working hours	Major business impact: General enquires in this category require time critical support.	Target Resolution < 2 working days
Medium	< 4 working hours	Medium business impact: General enquires in this category are important but do not require time critical support.	Target Resolution < 5 working days
Low	< 4 working hours	Minor business impact: General enquiries in this category include requests that can be self-serviced in the Weduc platform.	Target Resolution < 5 working days

Escalation Process

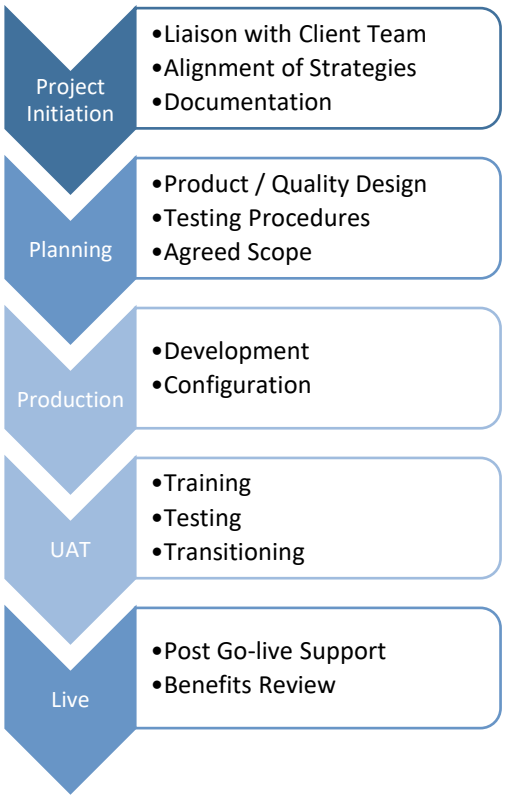
Should you believe that a service event has been inappropriately prioritised, requires immediate resolution or has been handled inappropriately then you are entitled to escalate your reported issue. If you wish to escalate a reported issue please contact our support team and request that they escalate your ticket to the Support Team Manager. The Support Team Manager will discuss your request with you and may escalate your issue to your Account Manager. If required the Support Team and/or Account Manager may raise your request with the appropriate Director at Weduc. The following table outlines our escalation procedure:

Escalation Level	From - To
First Point of Escalation:	Service Desk ticket to Support Team Manager
Second Point of Escalation:	Support Team Manager to Account Manager
Third Point of Escalation:	Support Team and/or Account Manager to the applicable Director

Project Management and Implementation

Weduc provides a “Fixed Price, Fixed Scope” implementation process. It will be based on a “light-touch” approach to PRINCE2™ Project Management to ensure that the Implementation is successfully brought to fruition, meeting the scope, cost and time criteria as set out in the framework. We have found that by adhering to the guiding principles of PRINCE2™ we can apply a ‘best practice’ approach to project management across a multi-disciplinary team with various stakeholder interests, commensurate with the scale and size of your project.

As part of the Fixed Price approach, Weduc will appoint an Implementation Team who will be responsible for transitioning you onto Weduc and to realise the benefits of the new system. The Implementation Team, consisting of the Launch Manager and Account Manager will work with key personnel within your organisation to plan and implement all aspects of the system, prior to handover. This can involve liaising with Training, Development and Business Analysts to ensure that the delivery is precisely tuned to your needs.



At the Project Close all documentation will be made available to you for inclusion into your Lessons Log. Meetings will be conducted via telephone, video conference or other online media. Any other requirement for Weduc to come to site, whether for Project purposes or training, will be chargeable at the SFIA rate card.

Weduc’s entire business model is based on its clients’ realising a Return on Investment by implementing the solution. As such we will work with you to ensure that the Benefits Review Plan is maintained throughout the life of the project and that the business case is maintained.

Training

As Weduc’s standard method of training involves delivering to key personnel and then cascading training internally, we will train the nominated Communication users to ensure as full a knowledge of the system as possible. Ideally this would take place alongside the project review meeting, at the commencement of the user acceptance testing (UAT) stage.

Critical to acceptance of the new system is a training regime that ensures that all users are conversant with the new system from the first time they have to use it. In addition to the above named session Weduc’s standard process is to deliver on-line training to project stakeholders in sessions that last around 90 -120 minutes each or alternatively more formalised courses run on-site or at Weduc’s offices.

At the Project Close all documentation will be made available to you for inclusion into your Lessons Log.

Meetings will be conducted via telephone, video conference or other online media.

Off-Boarding / Exit Process

Customers can choose not to renew when coming to the end of the Subscription Agreement. Thereafter the following process is followed;

- An exit plan will be agreed including data extract arrangements
- Data can be extracted in .CSV or Excel
- After contract termination, all live Customer data will be deleted.