ExLibris
campusM

TECHNICAL OVERVIEW

HELPING UNIVERSITIES AND COLLEGES CREATE OUTSTANDING NATIVE APP AND PORTAL EXPERIENCES USING OUR OMNI-CHANNEL PLATFORM.

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01

THE FUTURE OF

STUDENT

ENGAGEMENT

THE FUTURE OF STUDENT ENGAGEMENT IS… APPS

There is overwhelming evidence that today's students are Digital students. They expect, and want, to access services via apps on their mobile device.

When given a choice of apps or a mobile-ready portal to access university services, 96% of students choose to use apps.

Students see their mobile device as a constant companion with 82% of them sleeping with their smartphone switched on, next to their bed.

96%

Students prefer
apps to mobile-ready portals

99%
of students like using digital technology

Research has shown that having a mobile-first approach is already outdated, for universities to succeed in mobile they need to adopt an app-first strategy.

campusM - **THE APP-FIRST PLATFORM** DRIVING STUDENT ENGAGEMENT TO UNPRECEDENTED LEVELS

PERSONALIZE STUDENT ENGAGEMENT

campusM gives students personalized access to what they need instantly, helping to increase student engagement.

Students benefit from -

- An app experience as unique as the individual

- Information and services at a glance

- Personalized integrations and notifications

TRACK STUDENT ENGAGEMENT

campusM tracks student engagement giving you a holistic overview of an individual student's experience.

Track key metrics such as -

- How, what and where engagement takes place

- Attendance data and in-class engagement

- Interactions with university systems

IMPROVE STUDENT ENGAGEMENT

Adopting campusM can see a 2 - 5 X increase in engagement compared to other apps and mobile-ready portals.

Benefits include -

- Attract and retain the best students

- Increased feeling of belonging

- Building life-long relationships

5x

2x

campusM apps increase student engagement by

2-5x
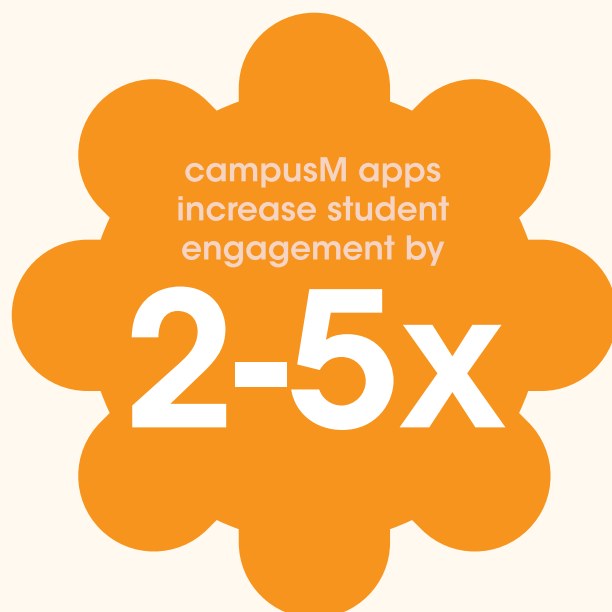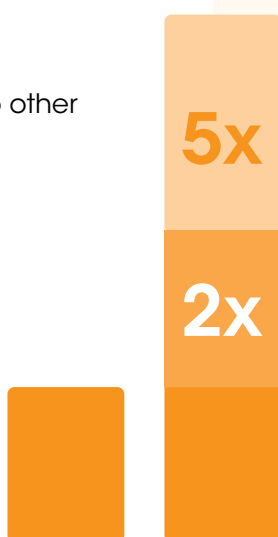
campusM IS 100% INCLUSIVE –
NO STUDENT IS LEFT BEHIND

Whilst apps are by far the preferred method of accessing integrated systems and information, it is vital to support those students who either do not own a smart device or choose not to use one. They need to be able to access the same content and services and it is important that their user experience is the same.

campusM provides a 100% inclusive solution. Offering a unified approach, campusM includes a responsive web app that is mobile and desktop ready and can be used as a student portal.

All managed from a single Platform you can deploy content to all channels easily and quickly.

campusM IS MADE FOR

EDUCATION AND OFFERS

- **the best native apps -** excellent user experience on mobile channels

- **portal functionality -** consistent responsive desktop access to services

- **single source of truth -** streamlines updates and extensions across all channels
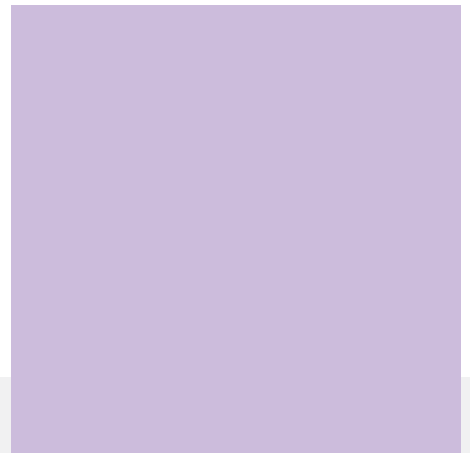
02

PLATFORM
OVERVIEW

PLATFORM AS A SERVICE APPROACH

THE campusM PLATFORM AS A SERVICE (PaaS) MODEL COMBINES THE BENEFITS OF:

- hybrid cloud computing

- shared service; multi-tenant architecture

- browser-based system management and reporting

- a flexible integration framework

PaaS deployments are faster and more cost-effective than on-premise installations. With its simplicity, scalability, and reliability, PaaS offers the latest features to all users at all times. It also streamlines the development and maintenance of services, while maximizing system availability and reducing total cost of ownership.

campusM
PLATFORM

ADMIN SUITE

APP MANAGER
- App Management
- User/Group Management
- Personalization Management
- CMS
- App Builder
- Real-time Publisher
- Security & Integration Management
- Geo-Locations Management
- Localization

APP EXTENSION KIT
- AEK Screen Builder
- AEK Preview
- Real-time Publisher

INSIGHT ANALYTICS
- Integrated Analytics
- Management Dashboard

campusM CLOUD

MIDDLEWARE CLOUD

PRESENTATION	PERSONALIZATION	PUSH SERVICES E.G. IOS, ANDROID	SECURITY	INTEGRATION
Device Services	Role Based User Experience	Push Notifications	Multi-authentication Framework	Hybrid Integration Framework
Responsive Design	Omni-channel Preferences	Enhanced Push Notifications	Login Services	Integration Services
Synchronization	Personalized University App Store	Multi-device Services	Security Connectors	Content Services
AEK Rendering Services	Push Notification Subscriptions	Omni-channel Notifications	Role Based Services	campusM Connect

INSTITUTION
campusM Connect - Authentication and Web Services

INSTITUTION SYSTEMS
Directory, LMS/VLE, Library, ERP Student Records, CRM, Timetable, CMS, Custom

XML, SOAP, REST, JSON, API, SQL, etc

NATIVE APPS AND RESPONSIVE LEAN PORTAL

Native iOS Apps
Native Android Apps
Responsive Portal

INTEGRATED NATIVE APP FEATURES
- Push Notifications
- NFC
- Working Off-Line
- QR
- Augmented Reality
- Camera
- Twitter/Facebook
- Accelerometer
- Media Library
- Persistent Data Storage

USER FEATURES
- LMS / VLE
- My Library Account
- Interactive Maps
- Location-based Services
- PC Availability
- Schedule / Timetables
- Up/download to LMS/VLE
- Pocket Guides
- Student Records Access
- Search Directory

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BENEFITS OF THE campusM PLATFORM

■ SHORT DEPLOYMENT TIMESCALES

campusM is deployed in weeks rather than months. Pre-built integrators and modules provide a framework for rapid implementation of academic and administrative services.

■ RICH NATIVE APPS

With its range of true native apps for Android and iOS, campusM works with the intrinsic capabilities of the host device to deliver a superior mobile experience.

■ INTEGRATION WITH EXISTING SYSTEMS

campusM plugs into both institutional and third-party IT systems, aggregating data and functions such as student records, identity management, and real-time data.

■ RESPONSIVE LEAN PORTAL

The campusM lean portal offers a desktop browser experience, adapting automatically to the device in use. Consistent with the Platform's range of mobile apps, it supports omni-channel delivery, and can be adopted as the institution's main student portal.

■ COST-FREE PUSH NOTIFICATIONS

Institutions can opt to send real-time push notifications to individuals or groups of end users. Notifications are a robust and cost-effective alternative to SMS and email, and can be applied to a range of communications, from campus Open House announcements to course schedule changes.

■ PROVEN SECURITY MODEL

campusM integrates with existing security and Single Sign-On (SSO) infrastructure, and can interoperate with multiple authentication mechanisms simultaneously.

■ HYBRID CLOUD EFFICIENCIES AND INTEGRITY

campusM's hybrid approach to data access delivers all the economic benefits of cloud computing, while ensuring that sensitive data remains securely located within institutional databases.

BENEFITS OF THE campusM PLATFORM

■ LATEST INNOVATIONS

campusM updates the mobile devices of all users automatically with the latest feature and Platform innovations.

■ EASY APP MANAGEMENT

Institutions can manage and customize all aspects of their solution, using the campusM App Manager. This simple and intuitive tool streamlines content updates and customizations across all channels and devices.

■ WRITE ONCE, DEPLOY INSTANTLY

In-house developers can create screens to service specific local requirements. Additional functionality runs without modification on campusM native app and responsive lean portal deployments.

■ ROLE-BASED CONFIGURATION

Institutions can configure profiles to target services to specific communities, from prospective and registered students, academics, and staff, through to alumni and conference visitors.

■ ADVANCED ANALYTICS

campusM Insight provides advanced reports and analytics that capture both web and mobile-specific usage data, including offline access and button-press metrics. campusM Insight consolidates data from native app and responsive lean portal activity to present an omni-channel view of user behavior.

■ MADE FOR EDUCATION

campusM puts the needs of education providers and end users at the center of its development philosophy.

■ AGILE DEPLOYMENT

The campusM Platform supports rapid iterations with an instant change and publish model. This accelerates deployment and enables highly-adaptable mobile solutions.

■ MULTI-TENANT PLATFORM

campusM institutions benefit from the lower cost of ownership of cloud computing, with a greatly reduced burden on infrastructure, and no on-premise intervention needed when upgrading.

> " **SINCE 2009, THE CAMPUSM PLATFORM HAS BEEN REVIEWED EXTENSIVELY BY SECURITY EXPERTS, AND APPROVED FOR USE AT MORE THAN 40 MAJOR INSTITUTIONS.** "

"**THE campusM PLATFORM WAS THE ONLY ONE WE FOUND THAT WOULD WORK WITH ALL OUR DATA SOURCES.**"

RAJ VASWANI, PROJECT MANAGER / IT SENIOR ASSOCIATE CITY UNIVERSITY OF NEW YORK, QUEENSBOROUGH COMMUNITY COLLEGE

"**NONE OF THE PRODUCTS IN THE MARKETPLACE CAN MATCH campusM ON FLEXIBILITY OR SPEED OF CONTENT CREATION.**"

JOHN FAIRHALL, MOBILE TECHNOLOGY ADVISER, UNIVERSITY OF BRADFORD

03
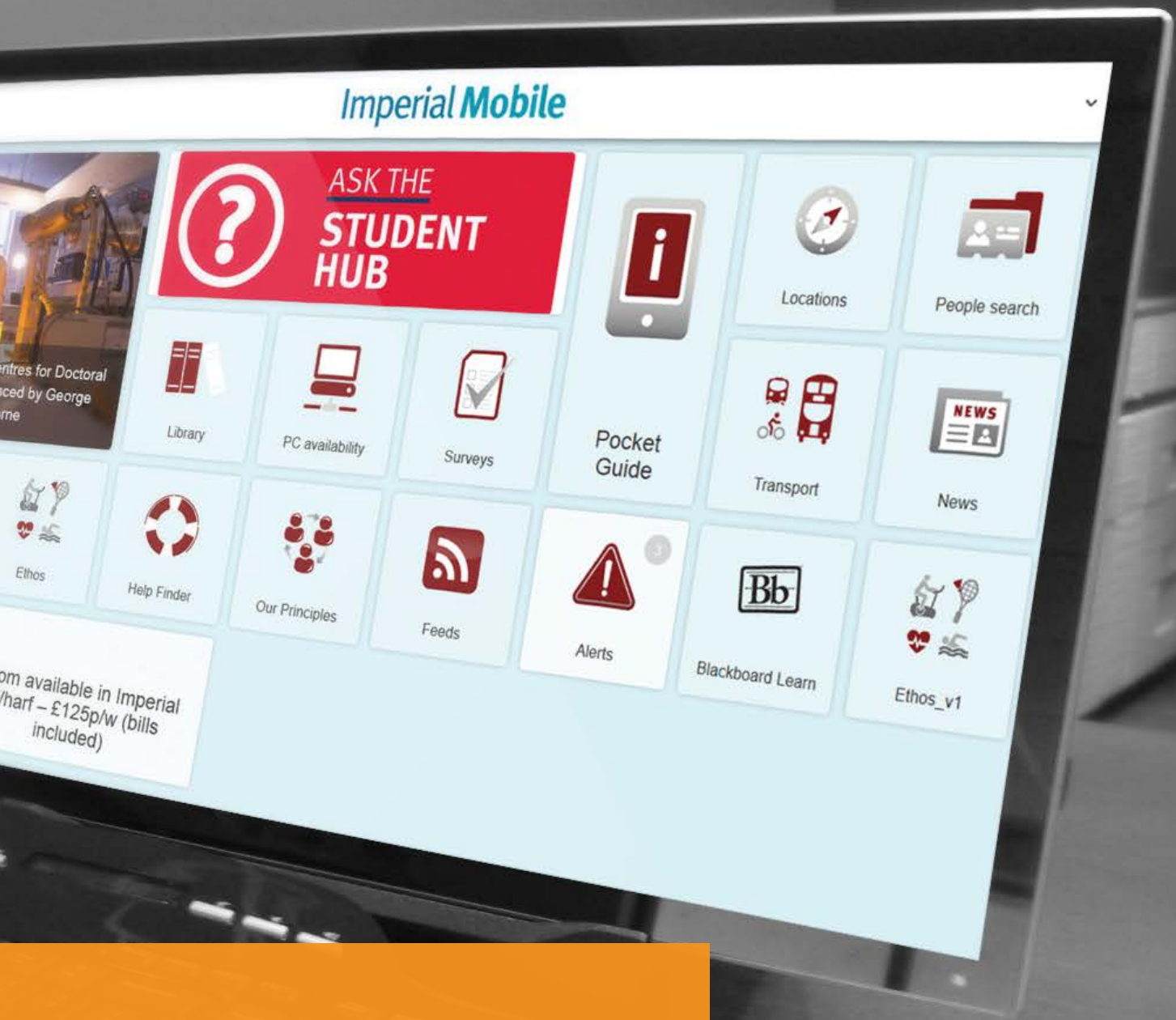
NATIVE APPS
AND **RESPONSIVE**
LEAN PORTAL

IMPORTANCE OF NATIVE APPS
AND LEAN PORTALS

Recent studies have shown that users prefer to use native apps. One piece of research in 2013 found that 85% of respondents prefer them due to their speed, high quality interfaces and platform specific features.

However an institution developing native apps is faced with potentially maintaining separate apps for each Operating System, often written in different languages, and having to deploy updates from multiple channels.

Whilst it is clear that mobile apps can be an important part of the digital offering that students receive from their institution, it is still vital for them to be able to access university services via a desktop portal environment. A recent survey found that almost all students bring a laptop with them when they start University.

campusM is unique in bringing together pre-built native apps, as well as a fully responsive HTML5 lean portal, providing the best possible experience on any device.

Managed from a single channel, campusM simplifies mobile and portal development allowing institutions to have the best of all worlds.

RESPONSIVE
LEAN PORTAL

In its 2011 research report, The Great Portal Divide[2], Gartner points to the lengthy project timescales and unwieldy size of the 'big portal suite'. Lean portals, on the other hand, deliver faster implementation and return on investment, typically deploying 80 per cent of the required functionality in a matter of months.

The campusM responsive lean portal adopts the lightweight approach that Gartner advocates, and provides a single presentation layer, which serves both mobile and desktop browser environments. campusM supports SSO and other authentication methods, so portal and mobile users alike benefit from seamlessly-integrated services.

2 The Great Portal Divide: How a rift in the portal market will impact your web strategy. Gartner, Inc., 2011. https://www.gartner.com/doc/1780738/great-portal-divide-rift-portal

TRUE
NATIVE APPS

campusM exploits all the capabilities of native devices, including offline working, powerful graphics, and robust persistent storage. campusM apps are true native, as opposed to generic HTML-based services with a native wrapper, or recompilations of cross-platform code.

campusM mobile apps are compatible with mobile device functions such as NFC, QR, cameras, and on-board accelerometers. Native apps perform faster (through ease of access to device and platform features), and deliver enhanced security and device-compatible interfaces that are familiar to the end user.

campusM USER FEATURES

The campusM platform offers a host of user features as standard, all designed to enhance the user experience and deliver added value to institutions and stakeholders alike.

ALL OF THE FOLLOWING FEATURES ARE AVAILABLE ON OUR DEMONSTRATION APP WHICH IS FREE TO DOWNLOAD AT **m.campusM.org/get**

OR SCAN HERE
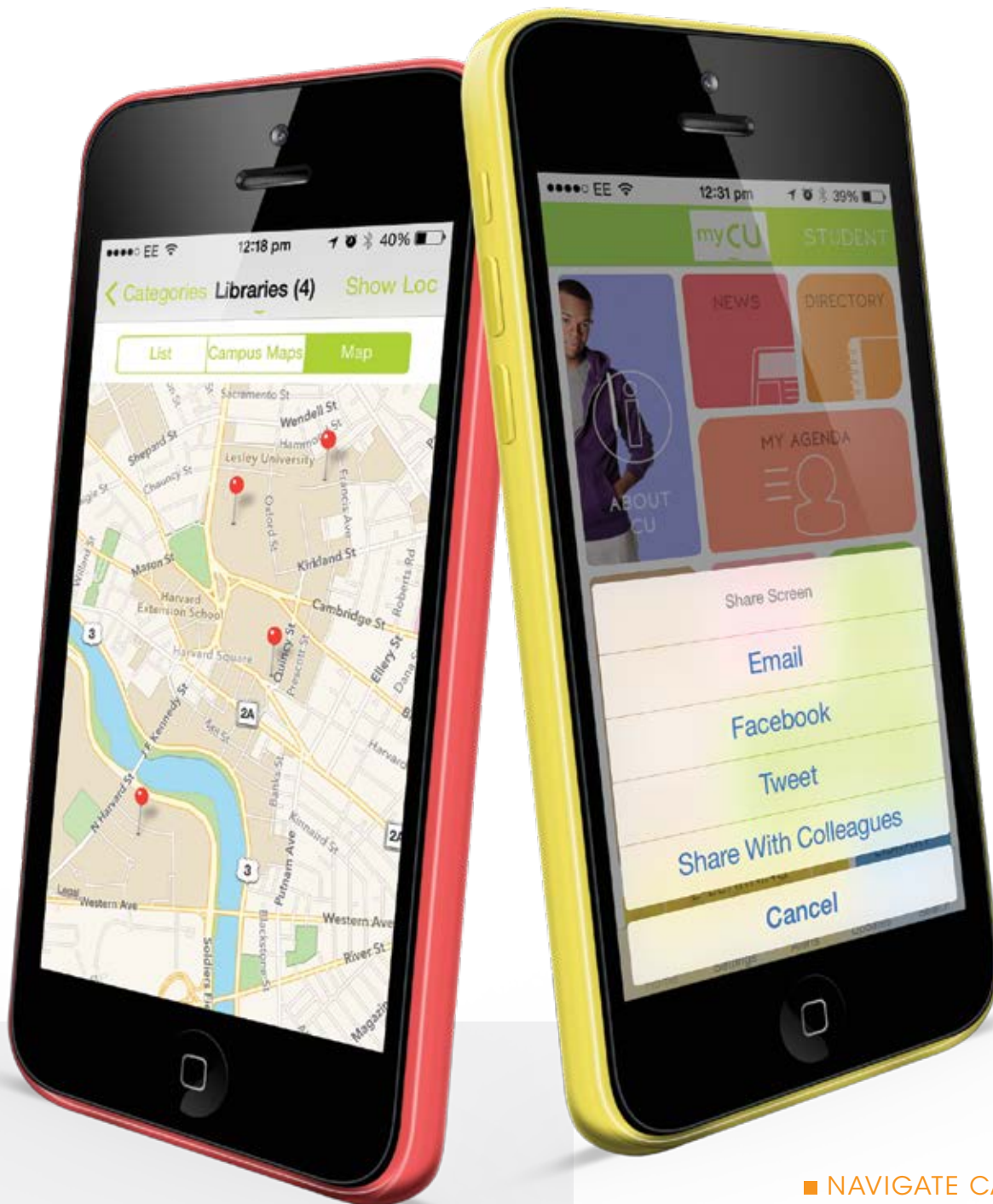
■ NAVIGATE CAMPUS

Search for buildings and other amenities by name, pinpoint them, and navigate campus maps, using GPS.

■ CONNECT WITH SOCIAL NETWORKS

Share content such as news items on Twitter, Facebook and via email.

STUDENT RECORD SYSTEM INTEGRATION

Delivery of front end services with full integration with Student Records Systems such as PeopleSoft, Banner and SITS.

SINGLE SIGN-ON

Simplified authentication with once-only login to diverse institutional and third-party systems.

LAUNDRETTE AVAILABILITY

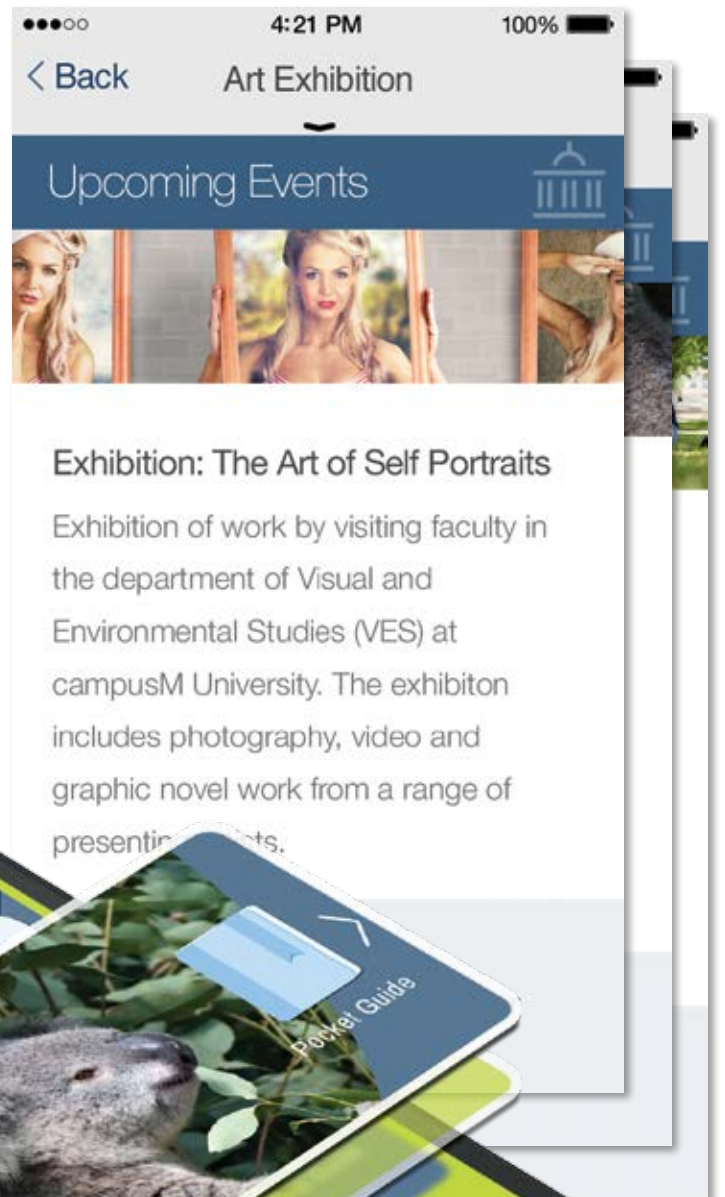Real time information about washing machine and drying facilities.
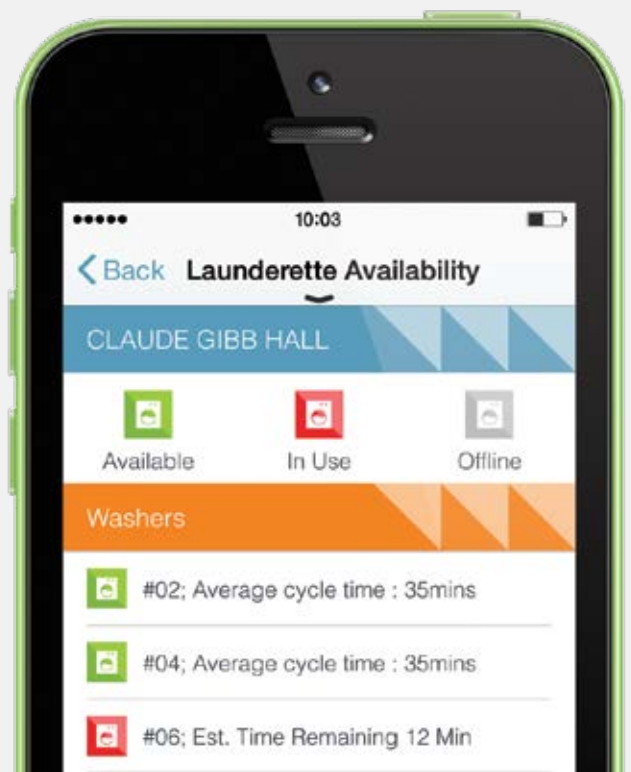
■ AUTOMATIC UPDATES

The latest features and content to all users at all times, with the campusM synchronization framework which deploys updates immediately.

■ POCKET GUIDE

In-app campus tours, student/ staff handbook, maps, emergency contact details, and FAQs.
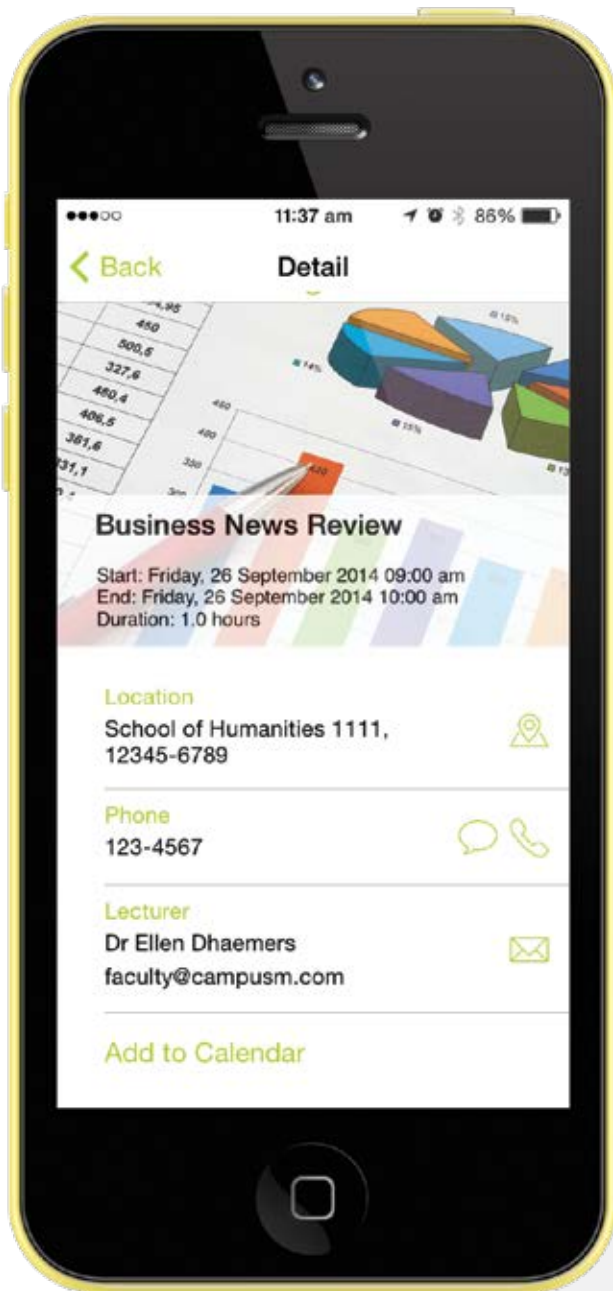
■ LMS INTEGRATION

Details of assignments and courses, and
notification of grades.

■ SEND PUSH NOTIFICATIONS

Send push notifications to all users,
members of specific profiles,or individuals.

■ SCHEDULES

Personalized class and exam schedules, linked to contact information, campus maps, and other resources.

■ OFFLINE WORKING

In-app storage for offline access to core learning materials and information.

■ LIVE TILES

Dynamic real-time information displayed on the app home page.

■ UNIVERSITY CONTACTS

Search the University directory. Phone or email contacts and add them directly to the devices address book.

■ MY LIBRARY ACCOUNT

View library account details, reserve or renew books, and find learning resources in the library catalogue.

■ PC AVAILABILITY

Check PC availability across campus and use GPS to locate the nearest computer.

■ CAPTURE USER FEEDBACK

Users can submit feedback and ideas for future enhancements.

■ APP TOUR

A fully-customizable virtual tour of key user features, displayed when a user first logs into the app.
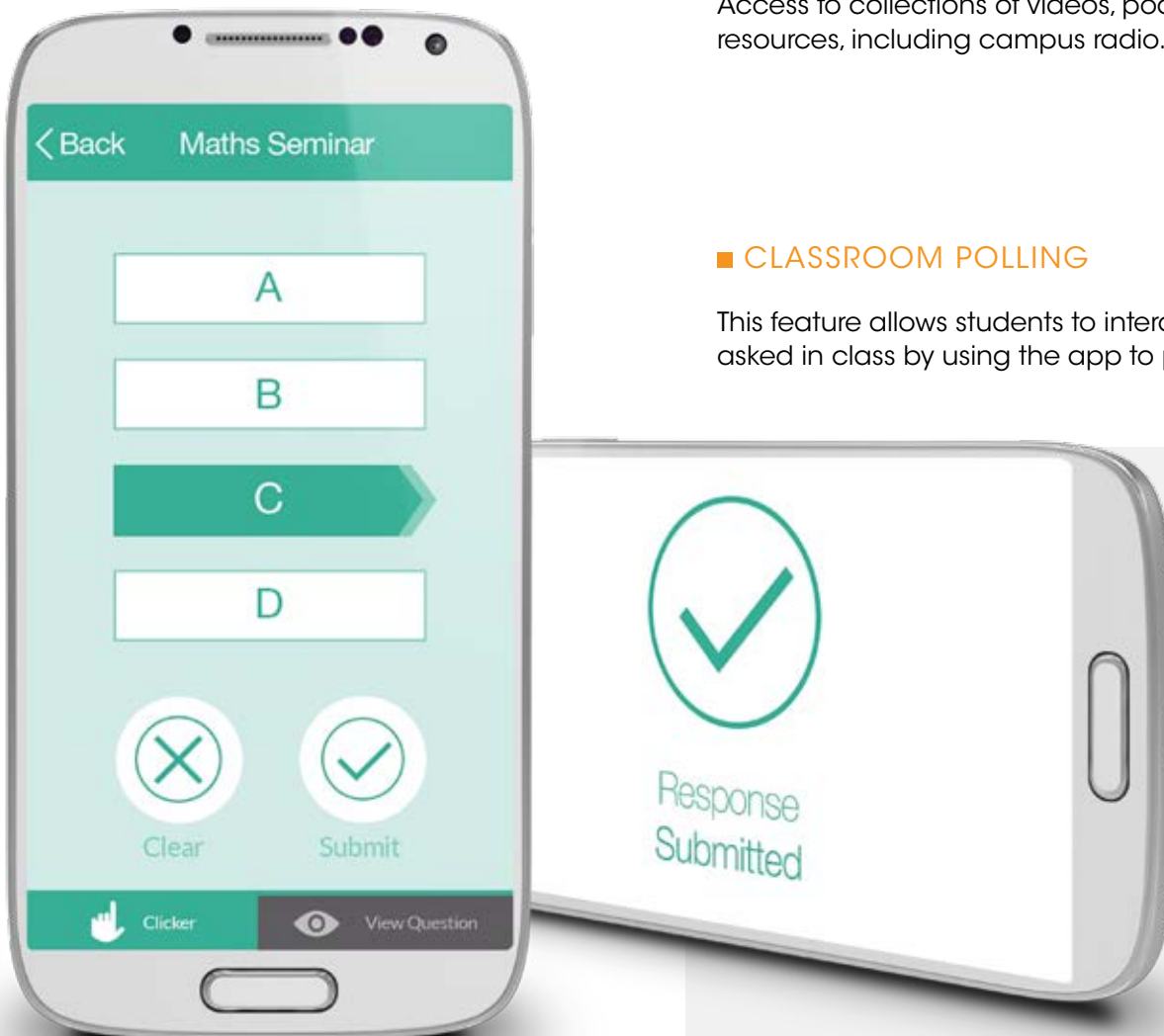
■ TOUCHPOINTS

Interactive notifications and information from nearby QR codes and NFC touchpoints.

■ MULTIMEDIA RESOURCES

Access to collections of videos, podcasts and other resources, including campus radio.

■ CLASSROOM POLLING

This feature allows students to interact with questions asked in class by using the app to post responses.

■ RECENTS

Shortcuts to recently visited screens.

■ ACCESSIBILITY

Support for users with impaired vision, aligned with iOS accessibility features.

■ LINKS TO WEB PAGES

Follow links to web pages from custom icons on the home page or within pocket guides.

■ SEARCHING

In-app searching lets users find the information that they are looking for quickly and easily, either online or offline.

■ FILE MANAGER

Upload and download learning resources onto the device and access them even when offline, including powerpoint, pdfs and rich media.

04

ADMINISTRATION
SUITE

EASY MANAGEMENT AND FAST DEPLOYMENT

Integrated securely with the systems of your choice, the device-agnostic campusM Platform is deployed in weeks rather than months.

■ APP MANAGER

Our intuitive campusM App Manager makes it easy for administrators to develop the content and services that users need, with updates distributed across all channels at the push of a button.

■ INSIGHT ANALYTICS

As soon as you're up and running, campusM Insight Analytics will provide a comprehensive picture of usage and impact, helping to track the return on your institution's investment in the campusM omni-channel Platform.

■ APP EXTENSION KIT

In-house developers can also build bespoke solutions using our App Extension Kit (AEK).
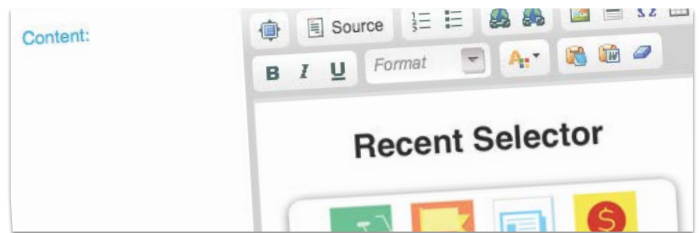
APP MANAGER

The campusM App Manager is a comprehensive SaaS configuration environment. Administrators can customize the end-user experience at every level – from minor edits and content changes through to an overhaul of the entire deployment. campusM then publishes updates out to mobile apps and responsive lean portal instances in a single operation.

The intuitive interface of the App Manager allows non-technical administrators to configure campus maps and geolocations, mobile branding, and other content.
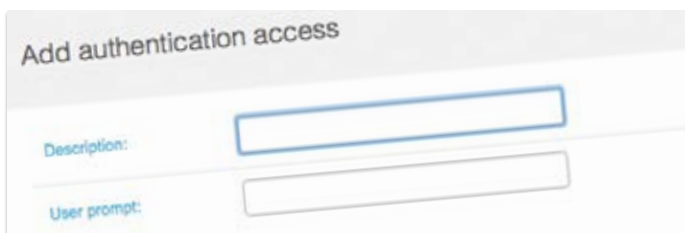
■ APP MANAGER ACCESS RIGHTS

The campusM App Manager offers secure and flexible configuration of app administrator roles and rights, giving institutions the ability to devolve management of particular areas to named individuals, departments, or groups of administrators.

■ CONTENT MANAGER

App administrators can edit and publish both simple and sophisticated assets from a single SaaS environment. Alternatively, they can configure the campusM App Manager to consume content from third-party CMSs.

■ REAL-TIME PUBLISHER

Simply click 'Publish' and changes go live instantly across all channels. campusM automatically downloads changes to Wifi-connected devices instantly, giving users on cellular connections the option to defer until they are back on a Wifi network.


■ INTERNATIONALIZATION

The campusM Platform is fully Unicode-compliant, so education providers operating internationally or in multilingual countries can handle language differences with ease and incorporate multiple languages within a single deployment.

APP MANAGER

■ BRANDING

The App Manager simplifies the management of branded assets such as logos, splash pages, icons, automated emails, style sheets, and color schemes.
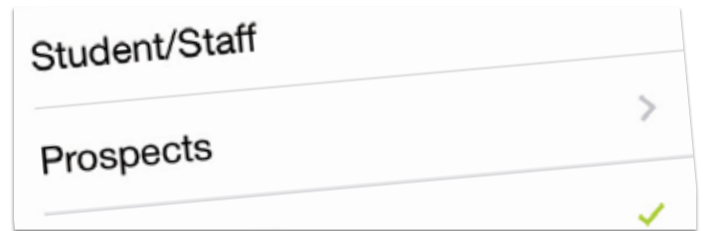

■ PROFILE ADMINISTRATION

The App Manager makes it easy to create and manage multiple profiles for specific communities. Profiles can be individually branded and populated to meet the distinct needs of audiences such as students, staff, alumni, and prospective students.
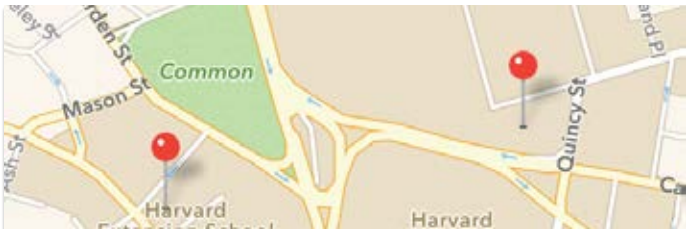
■ GEOLOCATION AND MAPS

Institutions can bring maps from any source into campusM, then enrich them by adding geolocations and location categories such as sports facilities or refectories. Maps can be enhanced with QR or NFC touchpoints, to add navigation or provide localized information.
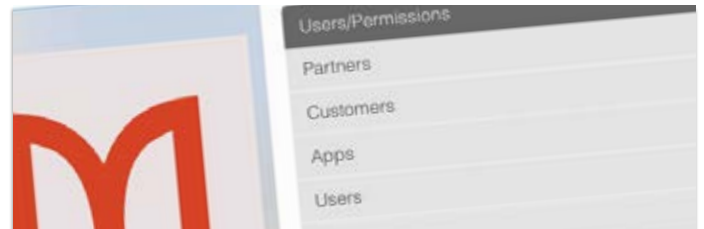
■ PERSONALIZATION

Using campusM App Roles, administrators can assign roles within the App Manager, then target specific aspects of the app to groups or individual users. campusM App Roles can draw data from diverse sources, including LDAP and student records systems.

campusM
APP EXTENSION KIT

The campusM App Extension Kit (AEK) is designed for rapid, agile in-house development and deployment of new screens, in response to evolving user and institutional needs.

The 'write once, run everywhere' paradigm reduces maintenance costs dramatically, helping educational establishments to deliver more with less.

■ INTEGRATED NATIVE FEATURES

campusM makes it simple for developers to harness device capabilities, such as GPS, NFC touchpoints, and screen rotation. AEK screens can call pre-built modules – content pages or campus maps, for example – to deliver a seamless experience across both native and customized features.

■ NATIVE LOOK AND FEEL

Screens developed using the AEK adapt automatically to the end-user device environment, and inherit standard campusM features such as pull-down refresh, navigation trail, and toolbars.

■ IN-BUILT MOBILE ANALYTICS

User activity on AEK screens and menu options – both online and offline – is captured by the campusM Insight Analytics tool.

■ IDEAL FOR SHARING SOLUTIONS

The AEK provides a simplified code-sharing environment for the campusM community. campusM clients can share their AEK extensions, browse the community repository, and reuse developments from other institutions. Solutions are distributed and deployed instantly.

EXAMPLE AEK
INTEGRATIONS

The following are examples of functionality that our customers have delivered using our App Extension Kit (AEK)
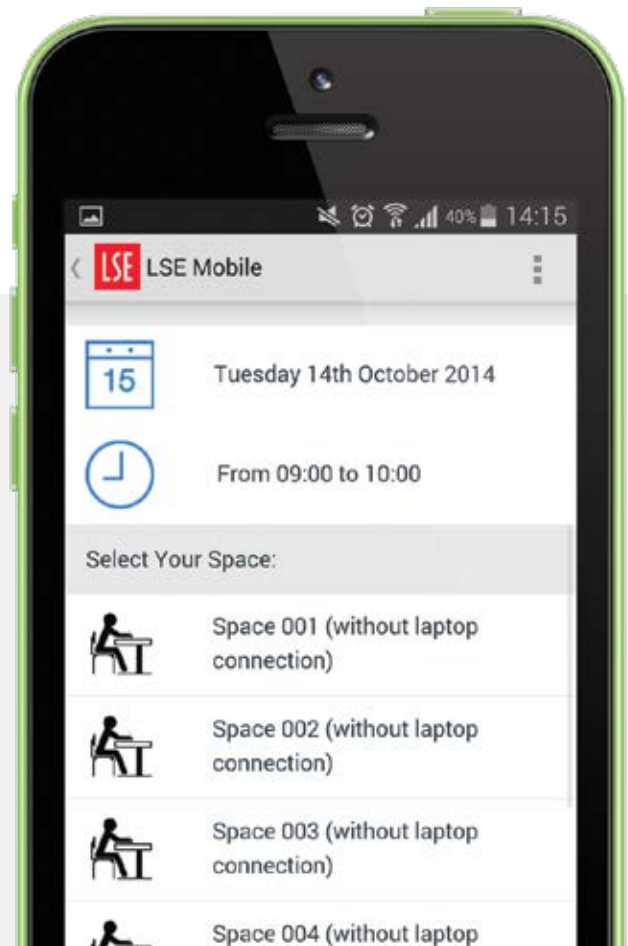
■ MY ADVISOR

Students are able to connect with their advisors directly from the app, which integrates with the institutions student record system.

■ ROOM BOOKINGS

Book meeting rooms or study space and view room information from within the app.
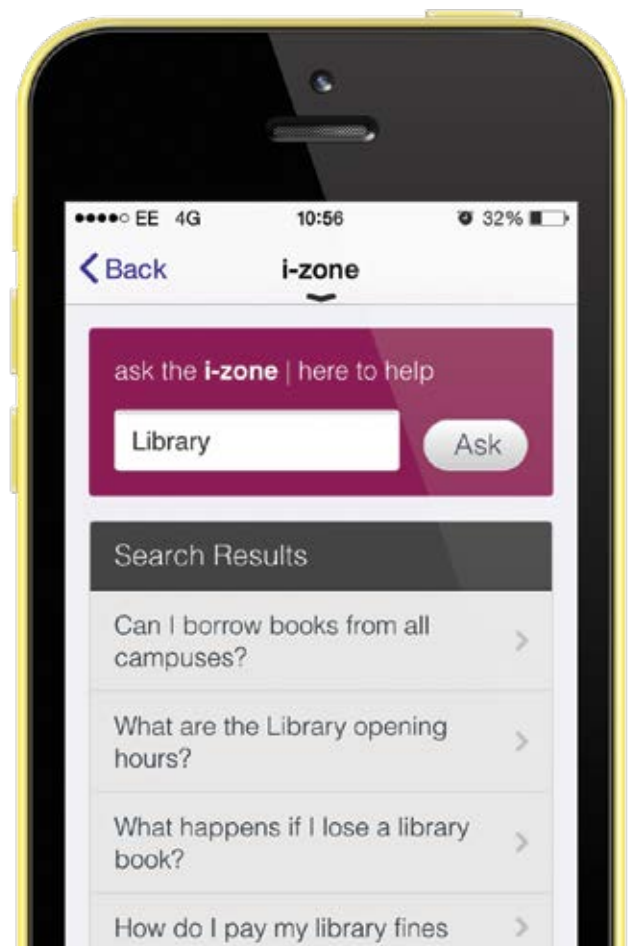
EXAMPLE AEK
INTEGRATIONS

■ WIND TURBINE

App users can see real time information about turbine output in addition to wind speed and direction.

■ I-ZONE

Helpdesk functionality allows students to access FAQ's wherever they are.

DEVELOP

In-house developers code local customizations using standard web technologies such as HTML5. The AEK is simple yet powerful, and allows developers to choose whether to develop within the campusM App Manager or use an integrated development environment. The AEK adheres to web standards (SOAP, REST, XML, and JSON) when integrating with third-party systems.

For new screens, the AEK incorporates campusM capabilities such as offline working, authentication integration, responsive design, and the recording of usage data. It also generates screens that are consistent with the environment of the user device.

AEK

DEVELOP

TEST

DEPLOY

TEST

The AEK gives developers a range of test options. They can use the App Manager preview mode, the sandbox environment, or deploy to a beta test app.

DEPLOY

Once the code is tested and approved, the developer publishes from the App Manager, and the AEK instantly deploys new functionality across both native apps and the responsive lean portal.

campusM
INSIGHT ANALYTICS

campusM Insight is our purpose-built analytics tool, allowing institutions to easily assess the impact of their omni-channel digital communications across all deployments.

Statistics including offline usage, button press metrics, device and operating system data are available and give a comprehensive overview of all activity on apps and lean portal instances.
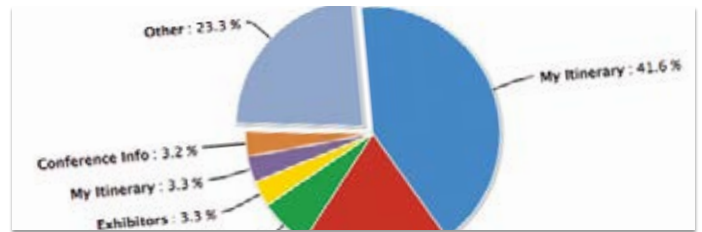
■ DASHBOARD

The campusM Insight dashboard provides the Key Performance Indicators (KPIs) that educational institutions prioritize, including usage, registrations, active users, and the popularity of devices, platforms, and menu options or modules. Administrators simply click on a KPI to drill down to more detailed reporting.

■ INTERACTIVE REPORTING

campusM Insight provides interactive reports. Clients can select time periods and other criteria from its reports and graphs, drill down for a focused view, or export online data and graphs into a range of formats including PNG, PDF, and CSV.

■ UNIFIED APP AND WEB ANALYTICS

campusM Insight builds up a comprehensive database of user behavior within a single reporting suite. It combines mobile and lean portal metrics in one view, and can also segment by audience (e.g., student; staff; Open House), mobile OS, device, or a combination of criteria.

" **WE'RE DEVELOPING OUR OWN APPS USING campusM APP EXTENSION KIT, AND DEPLOYING ONTO ALL MOBILE PLATFORMS.** "

CHRIS DIXON, HEAD OF SERVICE DELIVERY AND OPERATIONS, LANCASTER UNIVERSITY

" **THE OVERRIDING THING WITH THE AEK IS ITS FLEXIBILITY. IT GIVES YOU THE ABILITY TO EXTEND THE PRODUCT AS YOU NEED.** "

**SAM THOMAS,** BUSINESS ANALYST, KINGSTON UNIVERSITY

05

MIDDLEWARE
CLOUD

MIDDLEWARE SERVICES

The campusM Middleware Cloud provides a set of services to build, deliver, and manage omni-channel deployments:

- **Presentation Services:** to build, deploy, and customize user facing mobile and web-based applications

- **Personalization Services:** to offer personalization capabilties to users, and role-based targeting of all content and features

- **Push Notification Services:** to send targeted real-time messages

- **Security Services:** to integrate with your existing security infrastructure, for authentication and authorization of internal and external users.

- **Integration Services:** to draw on data, content, or functions from other systems.
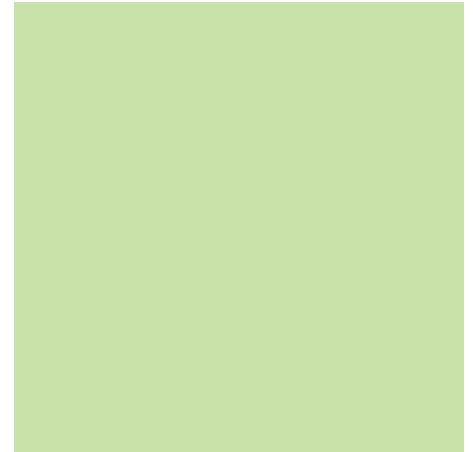
PRESENTATION

The campusM Presentation middleware provides commonality of features and services across all channels, providing a consistent user experience via smartphones, tablets, desktop and future devices.

The Presentation middleware adapts to the target platform, removing the device complexity associated with native app and portal deployments.

■ DEVICE SERVICES

campusM is device and OS aware, and configures features and menus to the device in use.

■ RESPONSIVE DESIGN

campusM fully supports responsive design across it's native apps and lean portal, adapting automatically to make the most of the available screen estate.

■ SYNCHRONIZATION

The campusM App Manager makes it easy for administrators to update any aspect of the campusM deployment. Synchronization services apply the latest updates to all app and portal instances.

■ AEK RENDERING SERVICES

Rendering services configure campusM AEK screens automatically, providing a native look and feel for the target OS.

PRESENTATION

| Device Services | Responsive Design |
| Synchronization | AEK Rendering Services |

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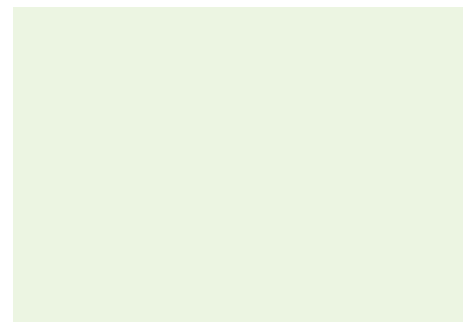
PERSONALIZATION

The best and most relevant user experience is a personal one, that's why the campusM Personalization middleware empowers users to create their own individual experience, and helps institutions target content and functionality to the right end-users.

■ ROLE-BASED USER EXPERIENCE

The role-based services of the Personalization middleware draw on data from sources such as LDAP and student records systems.

Administrators use profiles, roles, and personalization settings to control access to all aspects of institutional deployments, including branding, content, screens, menu options, maps, locations, NFC and QR touchpoints, and banners.

■ OMNI-CHANNEL PREFERENCES

The Personalization middleware stores user preferences, providing a consistent user experience across all native apps and lean portal deployments.

■ PERSONALIZED UNIVERSITY APP STORE

campusM enables institutions to create their own University App Store. Entries can be targeted to roles, ensuring that only relevant options are presented to users.

Administrators can easily add pre-built campusM modules and AEK screens, or any third party apps to the store, where users simply select the options they want to appear on their home page.

■ PUSH NOTIFICATION SUBSCRIPTIONS

Users can opt in or out of specific push notifications, ensuring that they get the information that is most relevant to them.

PERSONALIZATION	
Role Based User Experience	Omni-channel Preferences
Personalized University App Store	Push Notification Subscriptions

PUSH NOTIFICATIONS

The campusM Push Notifications middleware is a powerful push messaging platform that is cost free, scalable, secure and simple to use.

The messaging Platform can be used in various situations, from campus wide events through to targeted messages such as class schedule changes.

■ PUSH SERVICES

The campusM Push Notification middleware simplifies the management of communications. Push notifications can be sent using the App Manager, or institutions can automate their messaging by integrating in-house systems with the Push notification Web Service. In addition, institutional emails can be sent using the Push Service.

■ ENHANCED PUSH NOTIFICATIONS

campusM offers enhanced push notifications, creating valuable opportunities to deliver rich interactive content. Notifications can contain HTML, images, hyperlinks to web pages, videos and other online resources, along with links to app features such as campus maps.

■ MULTI-DEVICE SERVICES

The number of mobile users having both a smart phone and tablet is growing. Where a user has installed the app on multiple devices, the Push Notifications middleware manages this and sends notifications to each device.

■ OMNI-CHANNEL NOTIFICATIONS

Push notifications are synchronised across all channels, so they can be viewed via a native app and through the responsive lean portal.

PUSH NOTIFICATIONS	
Push Services	**Enhanced Push Notifications**
Multi-device Services	**Omni-channel Notifications**
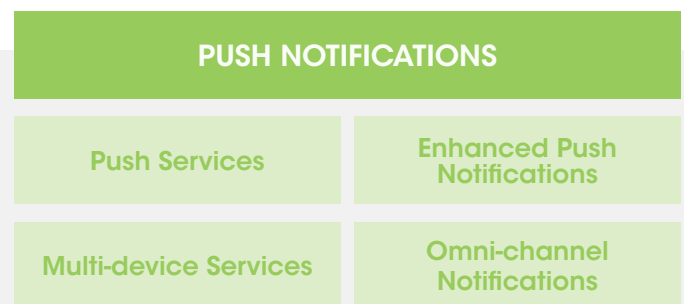
SECURITY

The campusM Security middleware offers a robust and flexible security architecture that integrates directly with any existing security infrastructure.

The Security middleware provides multi-level security which can be applied at the app level, login or individually for each screen and web service, all configured easily via the campusM App Manager.

■ MULTI-AUTHENTICATION FRAMEWORK

The security middleware can handle multiple authentication mechanisms, organizing screens and features into authentication groups. End users only need to enter their login credentials once to access a wide range of systems and services.

Administrators can assign different authentication mechanisms - such as LDAP, SSO, or proprietary identity management systems - to different groups. Administrators can also force re-authentication in certain areas, such as services that access financial data.

■ LOGIN SERVICES

Out-of-the-box login services support all types of users, guests that can log in anonymously or users who create a campusM account to an external authentication provider such as LDAP or SSO to identify and authorize against.

■ ROLE-BASED SERVICES

Role-based services can draw on data from diverse sources, such as LDAP or student records systems. The security middleware maps the grouping and identity information to app roles, in order to personalize delivery of all aspects of the deployment to individual users or specific groups.

■ SECURITY CONNECTORS

The security middleware supports standard authentication technologies, including LDAP and SSO, and can work with proprietary identity management systems. All campusM components - including login, AEK screens, third-party web systems, and underlying web services - can interoperate with the authentication scheme.

SECURITY	
Multi-authentication Framework	Login Services
Security Connectors	Role-based Services
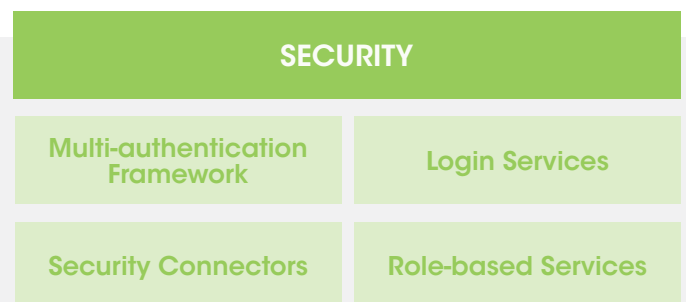
INTEGRATION

The campusM Integration middleware allows any on-premise or cloud application to integrate seamlessly with campusM.

With this approach integration is simplified, while ensuring that sensitive data remains securely located within institutional systems.

■ HYBRID INTEGRATION FRAMEWORK

Hybrid integration is essential to maximize investment no matter where systems reside. The campusM Integration middleware is SOA-based. Developers can easily integrate and aggregate data, then reuse, repurpose, and rapidly deploy solutions.

■ INTEGRATION SERVICES

campusM has 100+ integrations with the most popular University Systems. LMSs including Moodle and Canvas; Student Records including PeopleSoft, Banner and Campus Management; Library Systems; Timetabling, and Accommodation systems.

■ CONTENT SERVICES

campusM can import content from any data source including third party CMSs. campusM clients then enjoy automatic consistency of content across institutional native apps and lean portal deployments.

■ campusM CONNECT

campusM Connect provides a secure data gateway which allows for protected communication between campusM Cloud Platform and on premise systems. campusM Connect presents a service layer over existing custom and packaged applications to seamlessly integrate with campusM in real time.

INTEGRATION	
Hybrid Integration Framework	Integration Services
Content Services	campusM Connect
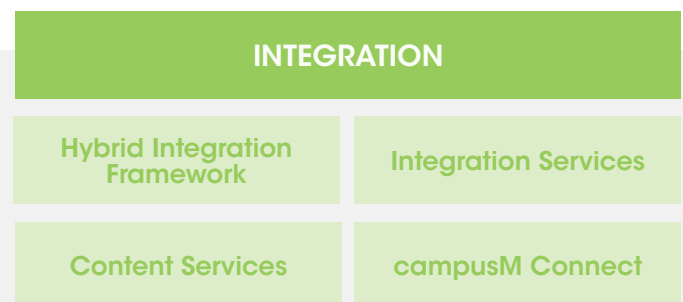
"THE EASE WITH WHICH WE INTEGRATED PEOPLE SOFT INTO campusM IN SUCH A SHORT PERIOD OF TIME WAS FANTASTIC."

DAVE HEYNS, PROJECT CONSULTANT, UNIVERSITY OF CAPE TOWN

"THE REAL STRENGTH OF THE OFFERING IS THE DEEP INTEGRATION WITH OUR SYSTEMS - IT TALKS TO ALL OF OUR SYSTEMS BEAUTIFULLY AND OFFERS A JOINED-UP STUDENT EXPERIENCE."

TONY LYONS, WEB MARKETING AND COMMUNICATIONS, ASTON UNIVERSITY

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ABOUT
campusM

ANALYSTS REVIEW
BY OVUM

campusM is architected in a way that makes it easy for institutions to deliver information and services via the mobile channel and via the web, is scalable to large student numbers, and can incorporate new information sources without additional development work. Ovum believes that mobile delivery of services has become an expectation for progressive higher education institutions, and that campusM is a compelling solution to deliver this functionality without fuss.

Whilst built on a common service-oriented framework, all the client apps are platform-native, so that they can take advantage of client-specific features such as GPS functionality, for the campus maps, and NFC. All of the information and service definitions are common across all client types, so only need updating once for deployment to all platforms.

In its latest version, campusM has adopted a responsive web approach to interface design, using a dynamic grid and tile style of interface which delivers a strong user experience. This also enables customers to use a single platform across both mobile and web environments, and they can customize the inclusion and behavior of individual 'tiles' to be device-specific. Several institutions are intending to use the campusM responsive web interface as a replacement for their existing web portal.

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campusM

Helping Universities and Colleges create outstanding native app and portal experiences using our omni-channel Platform

Our team of talented mobile and web professionals keep the campusM Platform at the forefront of technological advancements at all times. Outstanding levels of customer care, close attention to the user experience, and an innovative approach to everything we do are the shared values at the heart of our company.

campusM is available worldwide and is in use at institutions in North America, the UK, Europe, Australia and Africa.

DOWNLOAD OUR DEMO APP

All of the features described in this Technical Overview paper are available to view in our demonstration app.

**GO TO
m.campusM.org/get
TO DOWNLOAD THE
APP FOR YOUR MOBILE
DEVICE, OR ACCESS THE
FULLY RESPONSIVE WEB
VERSION AT
m.campusM.org**

OR SCAN HERE

Watch our video to see how you can
download and use the app
http://voice.adobe.com/v/Ba6wm7raeb

"**THE campusM TEAM HAS DELIVERED EVERYTHING THEY PROMISED ON TIME AND WITHIN BUDGET.** "

SCOTT HUNYARA, PROJECT MANAGER, EMPIRE EDUCATION GROUP

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ExLibris
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Ex Libris is a leading global provider of cloud-based solutions for the management, discovery, and delivery of the full spectrum of library materials, as well as mobile campus solutions for driving student engagement and success.

Ex Libris solutions are in use by over 5,600 institutions in 90 countries, including 43 of the top 50 universities worldwide and more than 40 national libraries.