SESA OnSite

“S.E.S.A. OnSite”, also known as “SESA OnSite”, “SESA OnSiteX”, or “OnSite”, is a mobile phone application (“app”) designed to replace manual paper-based and web-based reporting systems for technicians performing tasks at work sites, and to replicate additional functionality of those systems, such as billing and accounting. It also enables additional functionality that was previously impractical or even impossible, including but not limited to GPS-based location tracking, automated processing and documentation of units worked on, time tracking, and instant messaging. Technicians may use existing mobile phone devices to accomplish this, with the following benefits:

* Devices may be company-owned or owned by individual employees
* Devices may run on a variety of operating systems, including iOS, Android, and Windows Phone
* Devices do not always require a live Internet connection—even if mobile data or wireless Internet is not available, technicians can still create reports
* Technicians can immediately keep track of what reports they have put in, without having to ask office employees or web sites what they have submitted
* S.E.S.A. has a record of what repairs or maintenance has been performed on each unit, and can even view pictorial evidence of which units have been repaired
* Waste and fraud is reduced, because S.E.S.A. has a record of where individual technicians have been at a regular intervals, providing evidence that technicians have reported work accurately

OnSite uses [Ionic 3](https://ionicframework.com/), an open-source framework, to allow the same code to run on widely different types and versions of operating systems. It also uses [CouchDB](http://couchdb.apache.org/) and [PouchDB](https://pouchdb.com/) to enable it to store and automatically synchronize data between the server used by management and the individual phones used by technicians.

The individual functional modules used by OnSite are:

1. Home
   1. Includes a list of shifts for the current pay period, and a summary of the hours the current technician has worked for each shift.
2. Work Report
   1. Enables technicians to input required information about work they have done, including repair hours, unit number, work order number, and notes.
3. Work Report History
   1. Shows work reports filed by technicians for the last pay period. This display be configured for anywhere from 1 to 8 pay periods; the default is to display two pay periods.
4. Technician Profile
   1. Sets the name and associated information of the technician who is logged in to this phone. Most importantly, this module allows the individual user to manually set location in case the central schedule is inaccurate, or is otherwise unable to determine the technician’s work site.
5. Messages
   1. Allows technicians to receive messages or announcements from S.E.S.A. headquarters. Managers can access a history of when each technician has read and acknowledged each message.
6. Options
   1. Individual technicians can set per-user preferences, including what language they wish to view the app interface in[[1]](#footnote-1). Technicians can also use this screen for utility functions, such as manual synchronization of data to the server, or logging into other users’ phones in order to submit reports.

SESA OnSite Console

SESA OnSite Console is the portion of the application used by SESA management. It is significantly more centralized than the mobile/technician version of OnSite, and it effectively controls almost all of what the mobile/technician users of OnSite will see or be able to do with their version of the app.

1. Schedule
   1. Displays a list of users and work sites for each date. Allows SESA management to assign users to sites for each pay period. At the request of manager user “Saul Barreiro,” management users who do not regularly work on the technician schedule require his approval to submit an actual schedule change.
2. Payroll
   1. Shows a list of all technicians employed during each pay period, and gives management access to detailed information about what each technician worked on[[2]](#footnote-2) for each date and work site. Management can search and filter by any of the recorded fields, including user, work site, client, unit number, or any other available information.
3. Daily Profit Reports
   1. Shows managers projected information regarding technicians currently deployed, and the resulting company receivables and expenses on a per-technician basis. Management can use this information to determine how profitable each work site is, or look for
4. Invoicing
   1. Produces invoices for clients. Each client has a template (Excel, PDF, or other formats) which specifies how their invoices are to be created. When invoices are created, they are stored in CouchDB; invoices that have been paid are status-adjusted to record this. If invoices are not 100% reproducible via HTML/CSS, invoices can always be generated as pure images or Excel files.
5. Users
   1. Individual employees can be accessed from the console, by each user or by management. Individuals can change their location (work site) or person information such as mobile phone number, home address, and other per-user information. Managers, on the other hand, have complete access to user information, including user name, work site, hire date, and pay rate.

Management console

In this document, the software will be referred to as “SESA OnSite” or simply “OnSite”.

1. Core Functionality/Technology

OnSite uses Ionic 3, an open-source framework, to allow the same code to run on widely different types and versions of operating systems. It also uses CouchDB and PouchDB to enable it to store and automatically synchronize data but the most important function is to enable technicians/mechanics to report on work they have performed at customer work sites in real time or near real time.

1. New Functionality
2. Future additions (“Extended functionality”)
   1. Managerial mode
   2. Chat (SMS) interface
      1. Supports custom manager created groups
      2. Supports 1 to 1 chat between OnSiteX App members
3. Source code and algorithms

The current (“development”) version of the source code for the mobile app portion of OnSite can be found at <https://goo.gl/wn326c>. The current development version of the source code for the managerial portion of OnSite can be found at <https://goo.gl/Z2RvvU>. These two code repositories contain complete projects that can be immediately downloaded and compiled by anyone, subject to the following restrictions:

1. Users must be authorized to access these repositories (code is not public)
2. Users must have an appropriate software development environment set up on target computer

1. As of September 2017, languages available are English and Spanish. Additional languages may be added in the future simply by supplying translations for individual strings. [↑](#footnote-ref-1)
2. Employees or technicians who were not employed at onsite locations, but who were instead employed by S.E.S.A. at headquarters location, are also displayed3, but are accounted for under a separate and non-billable category.

   3This can be configured by individual managers. [↑](#footnote-ref-2)