**Empower Electronic Voucher Distribution System**

(Codename: Jarvis)

The Jarvis electronic voucher distribution system for Empower to allow them to vend prepaid vouchers from point of sale machines.

**Work Specification**

There are 3 main facets:

1. **Front end website**

The front end allows company administrators to:

* Create and manage agents (details, discounts and wallet payments)
* Create and manage service providers (vouchers, discounts and payments)
* Managing company administrators (create, update, reset passwords)
* Create and manage SMS (text, language)
* Pull ad hoc reports (sales, reconciliations)

1. **Application Backend**

The application backend is the core of the electronic voucher distribution switch. It handles:

* Receiving transaction requests from the POS machines and responding appropriately for the below transaction types:
  + Buy voucher
  + Check balance
  + Query transaction
  + Get new vouchers
  + Download program update
* Logging all transactions in the database.
* Managing agent wallets, deducting funds on each transaction.
* Managing front end user logins (login, log sessions, reset passwords)
* Performing transactions with the service providers through various integrations. These include:
  + Security log in
  + Buying vouchers
  + Checking balance
  + Reconciliation of transactions
* Send SMSs
* Pulling reports

**Additional Systems**

1. **Linux server** – Hosted on <https://cloud.google.com> under the account [empowerttl@gmail.com](mailto:empowerttl@gmail.com).
2. **GIT server** – The code of the business is hosted in a private GIT repository at <https://github.com/empowerttl/jarvis> while beta Android Application is hosted at <https://github.com/tkaviya/sym_mobile>
3. **Jenkins server** – Jenkins is a Continuous Integration (CI) tool that pulls code from github.com and builds it automatically into libraries & binaries to deploy on the test/live servers. Hosted @ <http://test.empowerttl.com:17508>.
4. **JBoss –** JBoss/Wildfly is a Java application server that loads all the libraries and binaries to run them as an application. It also runs the JVM (Java Virtual Machine), can manage connections to the databases, runs the SSL encryption, and more. Installed Test & Live Linux servers@ location /opt/wildfly
5. **Database server** – MySQL server is used for the project.
6. **Mail server –** All mail (registration emails, marketing material, reports, alerts etc.) from the server first goes via an internal sendmail mail server (localhost:25) which then forwards the mail to Sendgrid (<http://sendgrid.com>)