

General Event and Data model for App Developers

IBM Position Paper for W3C Workshop on Social Standards: The Future of Business

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Problem Statement

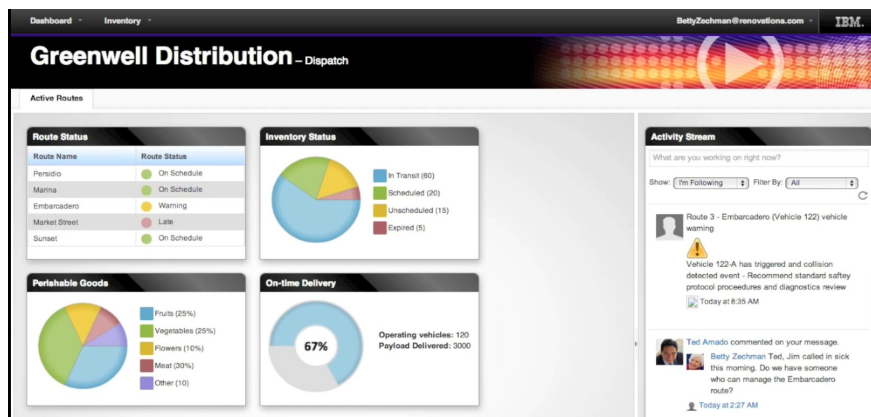
One of the general problems that hasn't been addressed well in social business applications is the flow of information across tool sets.

Some roles require very specific and targeted tools, while other roles – that are an important part of that process - may use general collaboration or other analytics tools. Bridging context consistently across these domains is critical to the success of a social business.

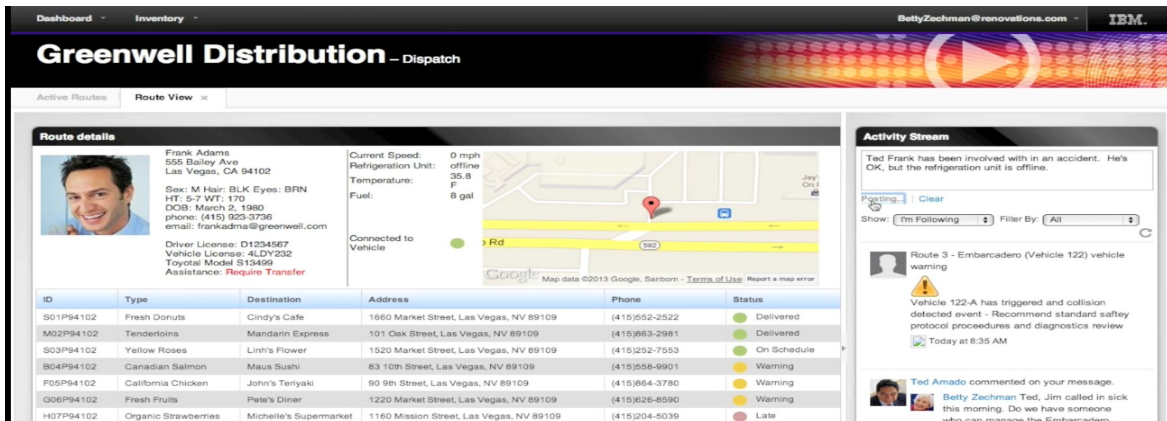
Use Case

Greenwell Distribution is a distribution logistics company with a large regional delivery fleet. Greenwell's ability to track vehicle data (location, cargo, delivery status), environmental data (traffic, construction, accidents and other hazards), perform predictive analysis, and communicate updates back to the field – in realtime – is key to their success. This data is fed into various systems of record (logistics, plans, inventory, etc), and consumed by a web application to provide an aggregate view to various roles including:

- Management – requires reporting to spot trends, identify new opportunities, and make corrections
- Dispatch – monitors realtime delivery and environment data and communicates with drivers to ensure timely delivery
- Delivery – mobile devices communicate delivery status to the data center and logistics updates to the driver



In the screen above, we can see Betty, a dispatcher, is able to view information aggregated from telemetry data (logistics), inventory, and planning. Alerts (such as accidents) are surfaced through the Activity Stream - which is integrated directly into the dashboard – and allows Betty to react without changing context:



This same dashboard is available via mobile, allowing the user the same capabilities within the same context:



Users are also able to access external applications from within the application via embedded experiences, enabling a deeper level of interaction without changing context.

Proposed Solution

The proposed solution is the creation of a general event and data model for use by application developers, leveraging existing standards and technologies including PubSub (MQTT), Linked Data (JSON-LD) and Message Payload (Activity Streams). This model should enable applications to extend social capabilities and services within the context of the application.

This paper suggests four principals for this model:

1. Use MQTT as an established and lightweight protocol for the collection of telemetry and scalable message communication
2. Use JSON-LD to extend the Linked Data concept to JSON. Incorporating Microdata, and particularly elements of schema.org could further extend this model.

3. Use Activity Streams to syndicate content throughout the application.
4. Use HTML5 to leverage reuse, portability, and ease of maintenance