Vendor Management System

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1 Introduction

1.1 Purpose

Internal Documentation for our senior capstone project for VCU Fall 2017.

1.2 Intended Audience

Developers and Bravium Consulting Inc.

1.3 Additional Information

Collapse CS301 - Bravium Consulting - Vendor Management

1.4 Contact Information

- Michael Tran: Student Capstone
- Yuchen Tian: Student Capstone
- Paul Nguyen: Student Capstone
- Robert Dahlberg: Faculty Advisor
- Skirpan, Nic: Bravium Main Contact 1
- Nuessle, Ryan: Bravium Main Contact 2
- Hade, Michael: Bravium Lead Developer
- Nuessle, Christine: Bravium CEO

1.5 Resource References

- `https://www.sam.gov/portal/SAM/#11`
- `https://www.naics.com/naics-drilldown-table/`

2 Overall Description

2.1 Product perspective

Modernizing Vendor Management Across the Enterprise

2.2 Product functions

Organizations lack a streamlined process for managing external vendors, which leads to duplicative work performed on the vendor side but also within the organizations themselves. Organizations oftentimes manage vendors using disparate systems that lack work flow automation and reporting/analytics to facilitate a more efficient and accurate vendor management process.

There are three aspects for vendor management.

1. Vendor acquisition: A company or organization needs to have a simple method for vendors to register themselves. The easier the process is, the more willing a vendor will be. There should be a unified form for vendors to complete. The form should envelope all aspects regarding the vendor. The details of the form are included in the data dictionary.
2. Job selection: Currently, there is no standard for vendors to apply to job postings. For example, there are a different number of requirements for government vs private contracts such as NAICs codes, company information.
3. Organization: Currently there is no convenient way to organize current and past vendors/contracts. The plugin will include a role based system for each entity involved. (ex: Vendor, Vendor Manager, Business). The vendor manager will organize the entire contract/vendor acquisition process.

2.3 Business requirements

The system should work out-of-the-box for a variety of organizations, such as private companies and governmental agencies. A convenient, easy to access tool that makes vendor management/ contract negotiation process streamlined and simple. The tool will include workflow automation, analytics, vendor self-organization, and contract vehicles.

2.4 User Stories

2.4.1 Vendor Manager User Stories

1. As a Vendor Manager, I want to access ServiceNow, so that I can manage Vendors
2. As a Vendor Manager, I want to see all job contracts, so that I can manage Vendors accordingly
3. As a Vendor Manager, I want to see all available Vendors, so that I can contact eligible Vendors about a new job
4. As a Vendor Manager, I want to see all employed Vendors, so that I can manage Vendors accordingly
5. As a Vendor Manager, I want to view a detail page on each Vendors, so that I can gather more information on the Vendor
6. As a Vendor Manager, I want to approve each Vendors, so that I can employ them for job contracts
7. As a Vendor Manager, I want to receive notifications from the business, so that I am up to date on current job posting

8. As a Vendor Manager, I want to review job postings, so that I can provide feedback to the business
9. As a Vendor Manager, I want to review job submissions, so that I can provide feedback to the business
10. As a Vendor Manager, I want to review vendors submissions, so that I can investigate the Vendor
11. As a Vendor Manager, I want to notify applied Vendors, so that I can provide feedback to the Vendor on the application status
12. As a Vendor Manager, I want to notify working Vendors, so that I can gather information on the current status
13. As a Vendor Manager, I want to see a log of status update from the Vendor, so that I can see how much of the contract is finished
14. As a Vendor Manager, I want to set-up dates, so that I can organize meetings with Vendors
15. As a Vendor Manager, I want to view previous contracts, so that I can keep a log of job contracts
16. As a Vendor Manager, I want to see contracts tied with Vendors, so that I can recontact each Vendors
17. As a Vendor Manager, I want to see a detail page on jobs contracts, so that I can adjust the work schedule to meet the deadline

2.4.2 Vendor User Stories

1. As a vendor, I would like to be able to access the Vendor management portal through ServiceNow, so that I can access the tool easily.
2. As a vendor, I want to create a profile, so that I can save my companys information and work with a business. (expand upon this)
3. As a vendor, I want to log in to my profile, so that I can quickly use the tool.
4. As a vendor, I want to be able to edit my profile, so that if anything changes within my company, it will be reflected in the vendor management tool
5. As a vendor, I want to be notified of deadlines for updating my vendor information, so that I can have accurate information in the system.
6. As a vendor, I want to be able to see jobs related to my field, so that I dont see unnecessary information.
7. As a vendor, I want to be able to apply to jobs, so that I can start discussing details with the business
8. As a vendor, I want to ask questions about a job I am interested in, so that I can better understand the details about the job
9. As a vendor I want to view messages sent to me over ServiceNow, so that I can respond accordingly to the messages.
10. As a vendor, I want to view my profile submission status, so that I can track the vendor approval process
11. As a vendor, I want to be notified of any important notices, so that I can respond accordingly
12. As a vendor I want to place a bid, so that the Business can view my bid and compare it to other bids

13. As a vendor, I want to add NAICS codes for my company, so that businesses can view what I am specialized in.
14. As a vendor I want to add a specialization, so that I can add a trait if it is not listed currently
15. As a vendor I want to contact the business about a job I am currently on, so that we can have a trackable communication (maybe)
16. As a vendor I want to view information about the business, so that I can see more details about that business
17. As a vendor, I want to add my companys values, so that I can emphasize what my company stands for
18. As a vendor, I want to filter jobs based on my search results, so that I can narrow down jobs I am interested in.
19. As a vendor, I want to see a list of past jobs I have worked on, so that I can easily contact those business if I am interested in doing another job for them.

2.4.3 Businesses User Stories

1. As a business, I want to have a standard job form to fill out, so that I can quickly create new job postings.
2. As a business, I want to receive notification when a vendor applies for a job, so that I can review their application.
3. As a business, I want to receive notification when a vendor requests more information, so that I can provide the information needed.
4. As a business, I want to edit the job posting, so that all potential vendors can view the additional information.
5. As a business, I want to see the list of all vendors who applied for a job listing, so that I can get an overview of the downselect process.
6. As a business, I want to send and receive SLAs, so that I can have a streamlined job application process.
7. As a business, I want to automatically notify a vendor that they are disqualified for the job posting, so that they wont waste time waiting for responses.
8. As a business, I want to set the starting bid/budget, so the vendors have a guideline to work with.
9. As a business, I want to see a list of all current bids for a job listing, so that I can have an overview of the bidding process.
10. As a business, I want to select a vendor to be awarded the contract, so that they can work with me for the job listing.
11. As a business, I want to upload documents attached to the job posting, so that I can provide more information that are not conveyed by the generic job form.
12. As a business, I want to create contract vehicles, so that it is easier to work with certain governmental agencies in the future.

13. As a business, I want to see the job history for a specific vendor, so that I know whether to work with this vendor in the future.
14. As a business, I want to schedule online or in-person meetings with vendors, so that we can better discuss job details.
15. As a business, I want to fill out a vendor performance form, so that I can hold vendors accountable.
16. As a business, I want to fill out a vendor complaint form, so that I can resolve any outstanding issues.

2.5 Operating environment

As ServiceNow is built to be an all-in-one business solution, it does not rely on third-party applications. ServiceNow development Is largely based on the built-in GUI based tools such as business rules, client scripts, macros, etc. For more involved tasks, JavaScript is used alongside with Glide Stack, a Web 2.0 development platform written in Java that facilitates development of forms-based workflow applications. The backend database is MySQL.
The application is made in ServiceNow as a plug. The following are the tools being used; Framework:

- ServiceNow `https://braviumdemo1.service-now.com/navpage.do`
- Angular `https://medium.baqend.com/angular-2-by-example-e85a09fa6480`

Language:

- Java
- Html
- JS `https://javascript.info/`

2.6 User environment

ServiceNow, the user would enable the plug-in then input all vendor information. Unless needed the user can update the vendor information. Can also import data from other tables.

2.7 Stakeholders

- Vendor: provides goods/services to the Business
- Vendor Manager: oversees the vendors and their interactions with the Businesses
- Business: posts jobs and seeks vendors to fulfill contracts

2.8 Constraints

Must be built in the ServiceNow environment.

3 System Features

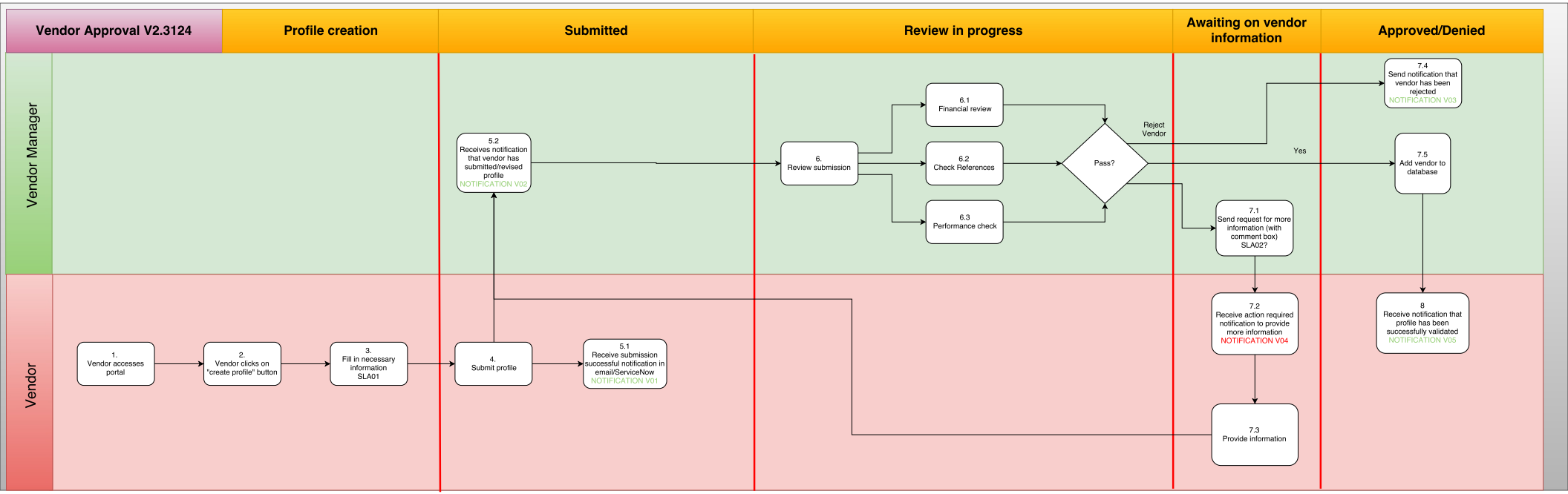
3.1 Vendor Profile

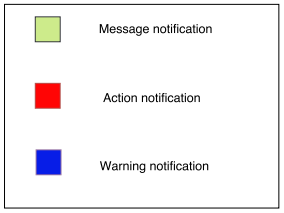
3.1.1 Description and priority

Vendor Profile houses all the general vendor information. Can be customizable to the owner liking

3.1.2 Action/result

See Work-flow See Work-flow on the next page


Vendor Approval V2.3124
Profile creation
Submitted
Review in progress
Awaiting on vendor information
Approved/Denied
Vendor Manager
Vendor
1. Vendor accesses portal
2. Vendor clicks on "create profile" button
3. Fill in necessary information SLA01
4. Submit profile
5.1 Receive submission successful notification in email/ServiceNow NOTIFICATION V01
5.2 Receives notification that vendor has submitted/revised profile NOTIFICATION V02
6. Review submission
6.1 Financial review
6.2 Check References
6.3 Performance check
Pass?
Reject Vendor
Yes
7.1 Send request for more information (with comment box) SLA02?
7.2 Receive action required notification to provide more information NOTIFICATION V04
7.3 Provide information
7.4 Send notification that vendor has been rejected NOTIFICATION V03
7.5 Add vendor to database
8 Receive notification that profile has been successfully validated NOTIFICATION V05


Message notification
Action notification
Warning notification

3.1.3 Functional requirements

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetuer odio sem sed wisi.

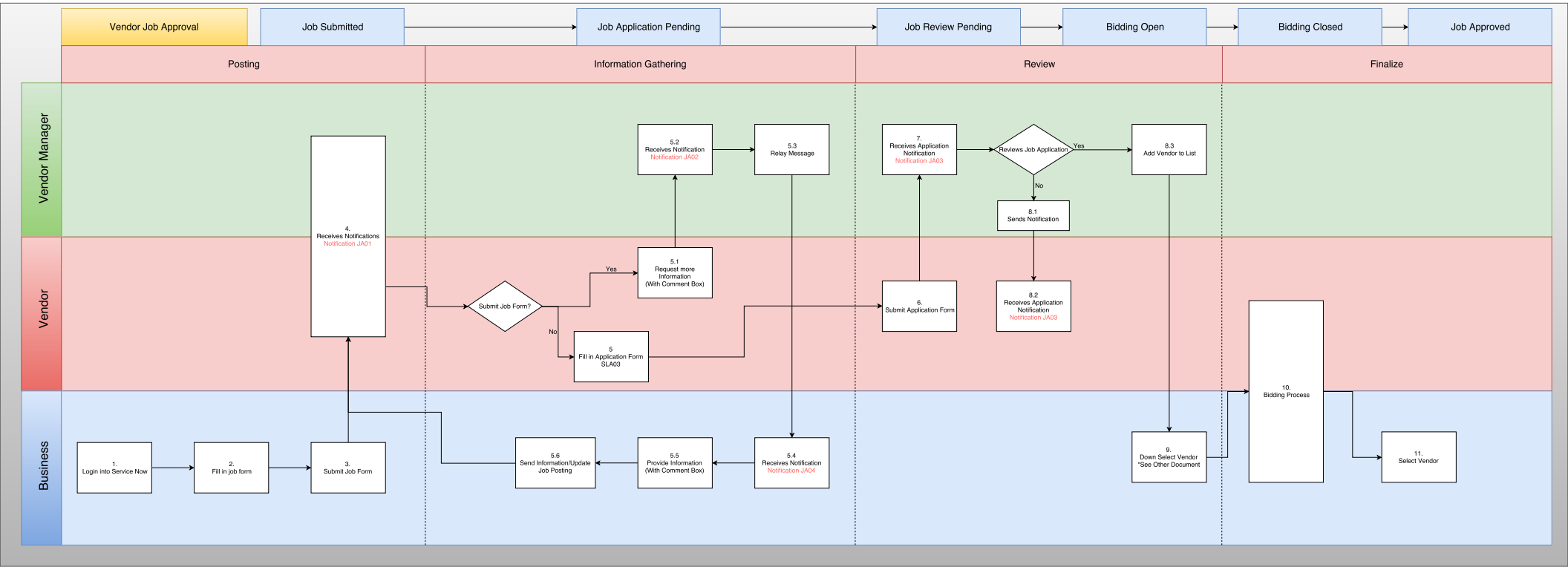
3.2 System feature B

3.2.1 Vendor Job Application

After the vendor makes a profile now the vendor can apply to jobs from whats is available

3.2.2 Action/result

See Work-flow on the next page


Vendor Job Approval
Job Submitted
Job Application Pending
Job Review Pending
Bidding Open
Bidding Closed
Job Approved
Posting
Information Gathering
Review
Finalize
Vendor Manager
Vendor
Business
1.
Login into Service Now
2.
Fill in job form
3.
Submit Job Form
4.
Receives Notifications
Notification JA01
Submit Job Form?
Yes
No
5.1
Request more
Information
(With Comment Box)
5
Fill in Application Form
SLA03
5.2
Receives Notification
Notification JA02
5.3
Relay Message
5.4
Receives Notification
Notification JA04
5.5
Provide Information
(With Comment Box)
5.6
Send Information/Update
Job Posting
6.
Submit Application Form
7.
Receives Application
Notification
Notification JA03
Reviews Job Application
Yes
No
8.1
Sends Notification
8.2
Receives Application
Notification
Notification JA03
8.3
Add Vendor to List
9.
Down Select Vendor
*See Other Document
10.
Bidding Process
11.
Select Vendor

3.2.3 Functional requirements

Suspendisse vitae elit. Aliquam arcu neque, ornare in, ullamcorper quis, commodo eu, libero. Fusce sagittis erat at erat tristique mollis. Maecenas sapien libero, molestie et, lobortis in, sodales eget, dui. Morbi ultrices rutrum lorem. Nam elementum ullamcorper leo. Morbi dui. Aliquam sagittis. Nunc placerat. Pellentesque tristique sodales est. Maecenas imperdiet lacinia velit. Cras non urna. Morbi eros pede, suscipit ac, varius vel, egestas non, eros. Praesent malesuada, diam id pretium elementum, eros sem dictum tortor, vel consectetuer odio sem sed wisi.