Contextual Inquiry
for
NEW (Nonprofit Enterprise at Work Inc)

Final Report

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Executive Summary

NEW (Non-profit Enterprise at Work estd. 1993) is a non-profit organization based in Ann Arbor, with the mission to help other nonprofits succeed by strengthening management and offering solutions to issues facing the nonprofit community. The services offered by NEW include leasing out office space to non-profits, providing IT solutions, management and leadership training for non-profits organizations. We have specifically worked with the IT consulting arm – **npServ**, which seeks to improve the adaptation of technology amongst non-profit organizations. Based on client requirements, npServ installs IT infrastructure at client site and offers IT support for all installed services.

Our group was brought in to improve the efficiency of npServ's workflow process and recommend solutions which will help them cut down costs and improve productivity. We mainly focused on the after-sales support process, the ticketing system (Cerberus HelpDesk), client interaction through the support process, intra-team interactions and response time to tickets.
To collect the required data, we interviewed all the members of the npServ team and some of npServ's clients and observed the team's day-to-day operations. After each of these sessions, we examined the collected data as a team in interpretations sessions. Below is a summary of the major findings that demand attention and a brief description of our recommendations to solve each of them. Our key findings were supported by observations and data collected in interviews and are later represented in the cultural, communication, sequence and artifact models (Refer to Appendices).

Finding 1 [Productivity]: The ticketing system reporting and customizations are not utilized to its fullest potential to improve productivity operations.
- Clients are not able to categorize or prioritize problems when submitting tickets online.
- Team spends time on categorizing and prioritizing tickets.
- **Recommendation**: Let clients specify priority and category while raising tickets. Evaluate reports (based time spent on particular client/category etc.) generated by Cerberus.

Finding 2 [Work Dependency]: Due to the varied expertise levels of staff members, there is a large dependency on one member of the staff.
- Duration of completion of tasks varies substantially from one team member to other.
- **Recommendation**: Staff members need additional training and guidance to develop skills to work independently on advanced technical problems.

Finding 3 [Respond Time and Clients Relation]: Clients call or email to enquire about ticket status and answering them takes extra time.
- Clients have no way to track status of a ticket
- Recommendation: Add new section on client login page – 'Track Raised Tickets'

Finding 4 [Client Relations]: The npServ team obtains very limited feedback from its clients.
- There is no feedback mechanism to survey clients about services and products.

- Feedback obtained does not yield results as evaluation is not done.
- **Recommendation**: Generate evaluation page when a ticket is closed. Gather feedback at contract renewal time.

Finding 5 [Client Relations]: There is no platform to promote new services to existing clients.
- Because of workload, npServ team does have time and resources to promote new products or services.
- Clients do not know how to acquire new services, and what services can benefit them.
- **Recommendation**: Market new services to existing clients at contract renewal time.

Background

NEW is a non-profit organization servicing southeastern Michigan, that strives to help other nonprofits succeed by strengthening their management and offering other solutions to issues facing the nonprofit community. To do so, NEW provides multiple services like Board Connect, Resource Connect, npServ, and leasing out office space to different organizations.

Our goal was to analyze the functioning of npServ – the IT-consulting arm, and help recommend a more streamlined and efficient process to potentially increase productivity of the team and build better client relations. The npServ core team has three full-time employees working out of the Ann Arbor office – comprising of the npServ Director and two technical staff personnel. The Director of Business Development deals with incoming clients and gets them on-board. Despite the small size of the team, npServ serves over 42 clients and is the most profitable sub-division of NEW. In general npServ has been fairly successful, and the fact that only one client has ever left npServ in their entire existence speaks to the excellent customer service. They plan to become 100% self-sustainable by the next year.

Most of npServ's new clients are referrals from existing clients although sometimes, npServ does reach out to seek new clients. After the initial technical assessment, done by the npServ Director in coordination with the Directory of Business Development, new clients sign a contract with npServ which comes with 1-year after-sales support period. The on-site IT installation includes hardware (servers, printers, routers etc.) and software installation, which is followed by training sessions for the client. Once the installation and training is done, the client enters support phase. In case of any technical difficulties, the client can contact npServ team via phone/email or raise a ticket through an online interface, which the npServ team will then attend to. The service contract is renewed yearly..

Through the course of the project, we realized that covering whole of the operations of npServ would not be feasible in such a short term. So, after much brainstorming, we narrowed down on the part which we think requires most attention – the after-sales support process. This includes all client interaction and intra-team communication that happens in the support process, the ticketing system and response time to tickets.

Much of the clients' information is recorded in the ticketing system Cerberus HelpDesk. All tickets raised by clients are logged here, and it facilitates email communication within its user interface. Additional features include logging time spent on a ticket and generating reports.

In this report, we have tried to addresses the key findings from our analysis and inquiry. This includes strengths, as well as problems for the organization which are supported with evidence from our inquiry process as well as recommendations from our side. Our major findings concern productivity, response time to tickets, work dependency among staff members, client communication and relations, feedback gathering and future expansion.

Methodology

Data Collection

After the initial meeting with NEW's CEO, we conducted a series of interviews with members of the npServ team as well as a couple of npServ's clients. The introductory meeting served to orient the group about NEW and npServ and to outline the process of our project.

The first person we interviewed is the npServ Director. He leads the npServ team and is in charge of the technical assessment of new clients, conducting and overseeing IT installations, and taking care of some troubleshooting tickets. The next two interviews covered the two technical staff members of npServ. The fourth interview was with the Director of Business Development. Though not a part of the core technical team, this person is in-charge for bringing-in and dealing with new clients for the npServ. In addition to interviewing the entire team, we had the opportunity to interview some of npServ's clients to get their perspective on npServ's services. We also conducted a session where we sat with the npServ Director and browsed through Cerberus HelpDesk and other artifacts and tools used by the team.

Data Analysis

Using the interview notes as basis, we spent time interpreting the data gathered in each interview to analyze the work processes described. During each of these sessions, we created several data models to represent the data collected, which depict the communication flow, culture, sequence of tasks and artifacts. We also created affinity notes in each interpretation session capturing the most relevant and helpful data, design ideas, breakdowns and missing information. These notes were then organized into an affinity wall with classified them into various categories and sub-categories. This process helped us pinpoint inefficiencies in the npServ work process, from which we formed our key recommendations.

Findings

Finding 1 [Productivity]

The ticketing system reporting and customizations are not utilized to its fullest potential to improve productivity.

Evidence: The npServ team receives large numbers of emails and phone calls from clients about the different technical issues they encounter. With over 42 clients being serviced, this can amount to a large inflow of tickets and inquiries. Due to this huge inflow, the team has to go through each and every ticket, spending time on each one to ascertain which one to deal first.
Secondly, the reporting solution offered by Cerberus is not brought into use for strategizing and improving productivity.

Short-Term Recommendation:
1. Create a drop-down menu for clients to select the priority of the technical issue whether it is low, medium, or high priority.
2. Add a 'Category' option so that the client can specify what hardware/software part is the problem about. Looking at this field and the priority field, npServ team can quickly identify how urgent and important the ticket is and thus selectively choose which ticket to work on first.

Long-Term Recommendation:
1. Use the priority and category options to generate more reports apart from the existing ones. npServ team should then meet monthly to discuss these Cerberus Reports to analyze the most common class of tickets, and which clients are facing the most problems. This data can then be used to provide additional training to those clients, or even to the npServ team so that frequent issues can be dealt with more adeptly.
2. Create customized wiki for clients which face most issues to encourage them solve the problem by themselves or avoid certain problems in the first place. (More details in Finding 7)

Finding 2 [Work Dependency]

The skill and expertise level varies between staff members, and there is a large dependency on one member of the staff.

Evidence:
- One technical staff member takes more time than the other team members for installation related tasks and complex ticket solving.
- Database related skills are not known to everybody in the team.
- npServ Director is performing two roles simultaneously – that of a lead as well as a technical staff.

Short-Term Recommendations:
1, Pair-up the experienced staff member with the less experienced member and work together for complex issues to ensure both come up to the same expertise level.
2. Provide more comprehensive trainings for new staff members. Use the Wiki as the base for a comprehensive training manual.

3. Create an troubleshooting manual – an excel sheet listing common technical issues and their solutions, and a reference link to a related ticket.

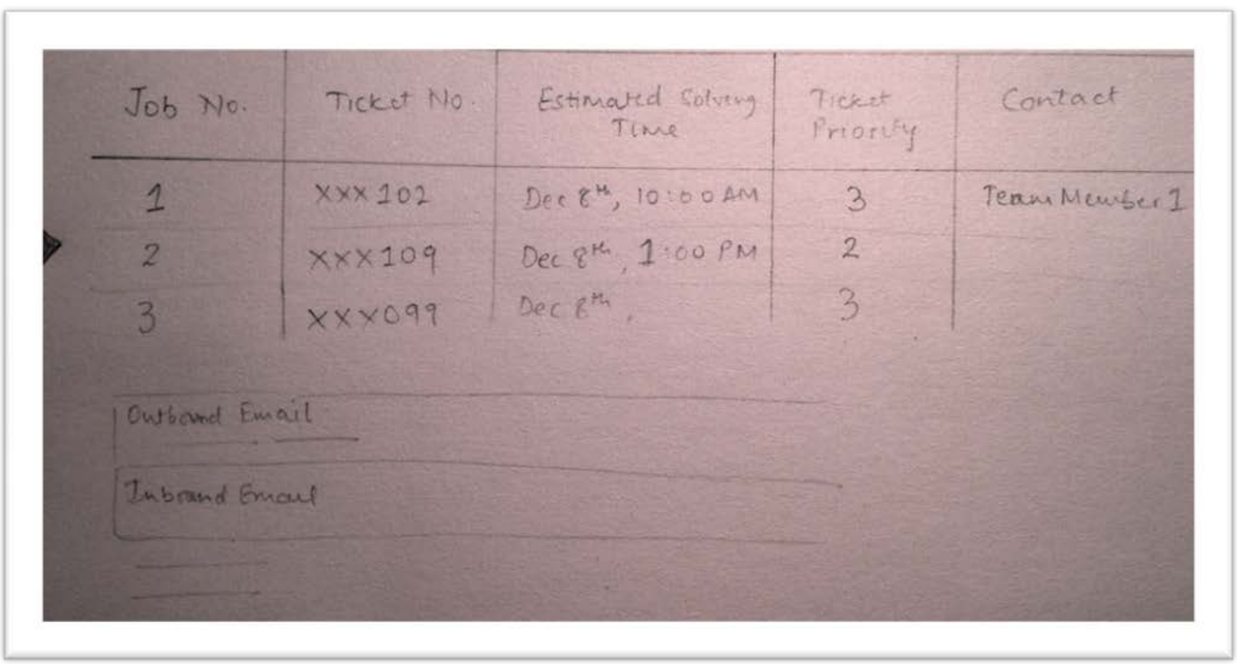
Long-Term Recommendations:
1. Since Fridays are not that busy for the team, take out 1hour each Friday to impart trainings on important and upcoming technical skills to the npServ team. Technology changes fast and it is important for the staff to keep up with the latest developments in IT industry.

Finding 3 [Client Communication]
Clients don’t have visibility to the ticket solving process.

Evidence:
- Clients often don’t get trouble solved right away and always call back to ask about the status of tickets.

Short-Term Recommendation:
1. Add new section to the client’s login page- “Track Raised Tickets”
- Indicate where an open ticket is in the queue of other tickets being solved by the team.
- Include the time when each ticket in the queue was raised, the priority and the estimated solving time.
- Include the current status of the ticket: acknowledged, working on, solved...
- Include the name of the staff working on the ticket and a direct contact link.
- Display all previous email communication about that ticket

The below rough visualization indicates the content of ‘Track Raised Tickets’ page –



All data can be extracted from Cerberus HelpDesk. A solution on these lines will enable the client to know up-to-date information about their ticket(s). This will reduce the calls and emails they send to the team enquiring about ticket status, hence saving time for the team (that would have been spent responding to those queries).

Finding 4 [Client Relation and Feedback]
There is very limited pro-active evaluation and feedback seeking from clients.

Evidence:
- The "Ambassador Program" which collects clients' feedback is a one-time thing, and no one had time to assess its result.
- Only the Director of Business Development (sales) calls to get feedback about services for new clients and the communication channel between sales, team and clients is not working well.

Short-Term Recommendation:
1. Create channels for extracting feedback from clients and assess the feedback received. When tickets with complex issues are closed, generate an evaluation page or send an email of evaluation and recommendation to the client. Collect this feedback into a particular category to assess them later (once a month, for instance).

Long-Term Recommendation:
1. Utilize the contract renewal time to advertise services, get feedback or simply thank the client.
2. Assign different staff member to conduct Ambassador Program (telephonic/via email) once a year. Assess the results and use them for the strategy development for the next year. Use volunteers for assessment of results, and draw statistical analysis from it.

Finding 5 [Expansion]
Clients would like to know about useful services other non-profit organizations got. But there's no good channel for that kind of information.

Evidence:
1. A client we interviewed is interested in services like analytical tools and web-based services,
2. A client is extremely satisfied with the CRM tool - civiCRM that npServ customized for them. They feel the system may suit other non-profits perfectly, but there's no platform for them to share the experience either with other non-profits or npServ team. They themselves got this info from friends instead of npServ.

Short-Term Recommendation:
1. Offer seminars to advertize and inform clients about useful and affordable services. Also invite clients that have been using the services to share their experiences.
2. Research about the cost of these services in the market and depending on that, make suitable best offers to the clients.

Long-Term Recommendation:
Further develop the seminar into a good platform for communicating with clients and for the clients to communicate amongst each other. Let the current clients invite other non-profits to attend this session and get to know more about technology, npServ and NEW.

Conclusion

In our interviews with the clients of npServ, the response we got in praise of npServ was overwhelming. Most highlighted was the informal and positive relationship that npServ maintains with its clients. From these interactions and the communication we had with the team itself, it’s clear that npServ takes its non-profit motive seriously and this culture is strongly embedded in the work they do. It explains the free services that npServ offers to its clients, which we think is explainable and in fact, one of the USPs of npServ. So they are doing a lot of things right.

From what we gathered and interpreted, the main underlining problem for npServ is work overload and lack of sufficient resources to manage that load effectively. As of now, the team does not have the requisite resources to expand and get an additional person on board. This makes it essential to improve productivity and efficiency of the team in the current setup. Therefore, we have tried to highlight areas which can be brought into focus to save team’s time and effort. Also the team can simultaneously try to increase services offered to existing clients to bring additional revenue without much additional workload.

We learnt that one of the npServ technical staff recently left the organization. From our understanding, the team will look to hire a new person in early next year. We would suggest that npServ looks for a person with a mix of management and technical background. A person with lead capabilities and sound technical skills will be able to share the workload of present npServ Director. Alongside, a focus on improving overall efficiency and productivity will definitely help npServ achieve its goal to become 100% self-sustainable over the next year.

Appendix A – Additional Recommendations

Here, we present some extra findings which we thought might be beneficial -

Finding A.1
The wiki page for clients contains too much information and the clients seldom use it.

Evidence:
1. Based upon the responses from clients and from team members, many clients do not utilize the wiki page to solve their technical issues.
2. Clients continue to inquire about issues that have already been answered on the wikipage

Recommendation:
Create customized wiki pages for clients which face most issues. Add Q&As to the wiki based on previously encountered issues. Also add categorized troubleshooting tips like 'Printer Issues', 'Server Issues', 'Windows Vista Issues' etc.
Or provide a list of previous problems when a client is logged in to raise a ticket, and link those problems to the solutions on the wiki page.

Finding A.2:
There is no plan to cover out of business hours in case of emergency and special events.

Evidence:
1. According to Director of Business Development, there is no emergency plan in current service. Past problems occurred with one client when there was no one to deal with the emergency issue since the problem arrived out of office hours.

2. From the interview of an npServ client, it turned out they were most busy during weekends and out of general business hours. There's potential need to have service that covers out of business hour.

Short-Term Recommendation:
Have two work shifts: 8:00am-4:00pm and 10:00am-6:00pm

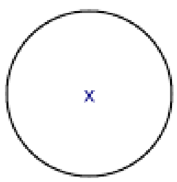
Long-Term Recommendation:
Develop a comprehensive emergency plan and consider charging more for those services to meet the needs and budget of clients.

Appendix B – Consolidated Cultural Model

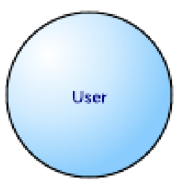
The following is the mapping of the user number, as used in the models, with the interviewee –

User	Interviewee
U01	npServ Director
U02	npServ Technical Staff-1
U03	Director of Business and Development
U04	npServ Technical Staff-2
U05	npServ Client 1
U06	npServ Client 2

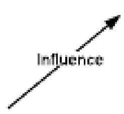
Cultural Models - Legend



An Influencer which affects or constraints the work process of another entity, is indicated by a bubble.



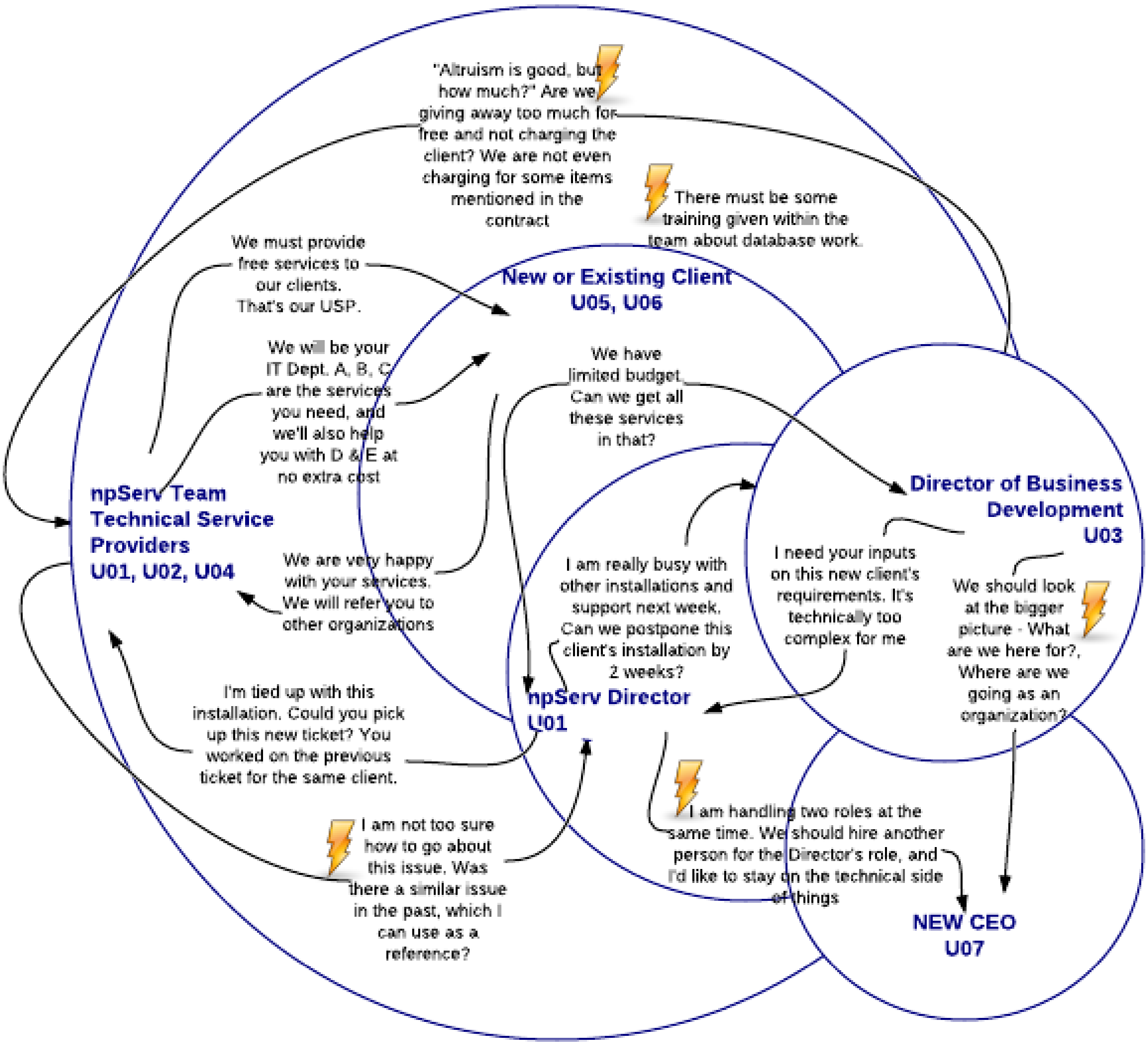
The User central to the particular individual model is indicated as a blue-white gradient colored bubble.



An influence cast by the influencer is indicated by an arrow, with the description of the influence

A lightning bolt indicates a *Breakdown,* which indicates a problem area in the company's culture/process

The amount of overlap between bubbles (influencers) indicates the *extent* of influence that the influencers cast on each other.


"Altruism is good, but how much?" Are we giving away too much for free and not charging the client? We are not even charging for some items mentioned in the contract
There must be some training given within the team about database work.
We must provide free services to our clients. That's our USP.
New or Existing Client U05, U06
We will be your IT Dept. A, B, C are the services you need, and we'll also help you with D & E at no extra cost
We have limited budget. Can we get all these services in that?
npServ Team Technical Service Providers U01, U02, U04
We are very happy with your services. We will refer you to other organizations
Director of Business Development U03
I need your inputs on this new client's requirements. It's technically too complex for me
We should look at the bigger picture - What are we here for?, Where are we going as an organization?
I am really busy with other installations and support next week. Can we postpone this client's installation by 2 weeks?
npServ Director U01
I'm tied up with this installation. Could you pick up this new ticket? You worked on the previous ticket for the same client.
I am not too sure how to go about this issue. Was there a similar issue in the past, which I can use as a reference?
I am handling two roles at the same time. We should hire another person for the Director's role, and I'd like to stay on the technical side of things
NEW CEO U07

Appendix C – Consolidated Sequence Flow Model

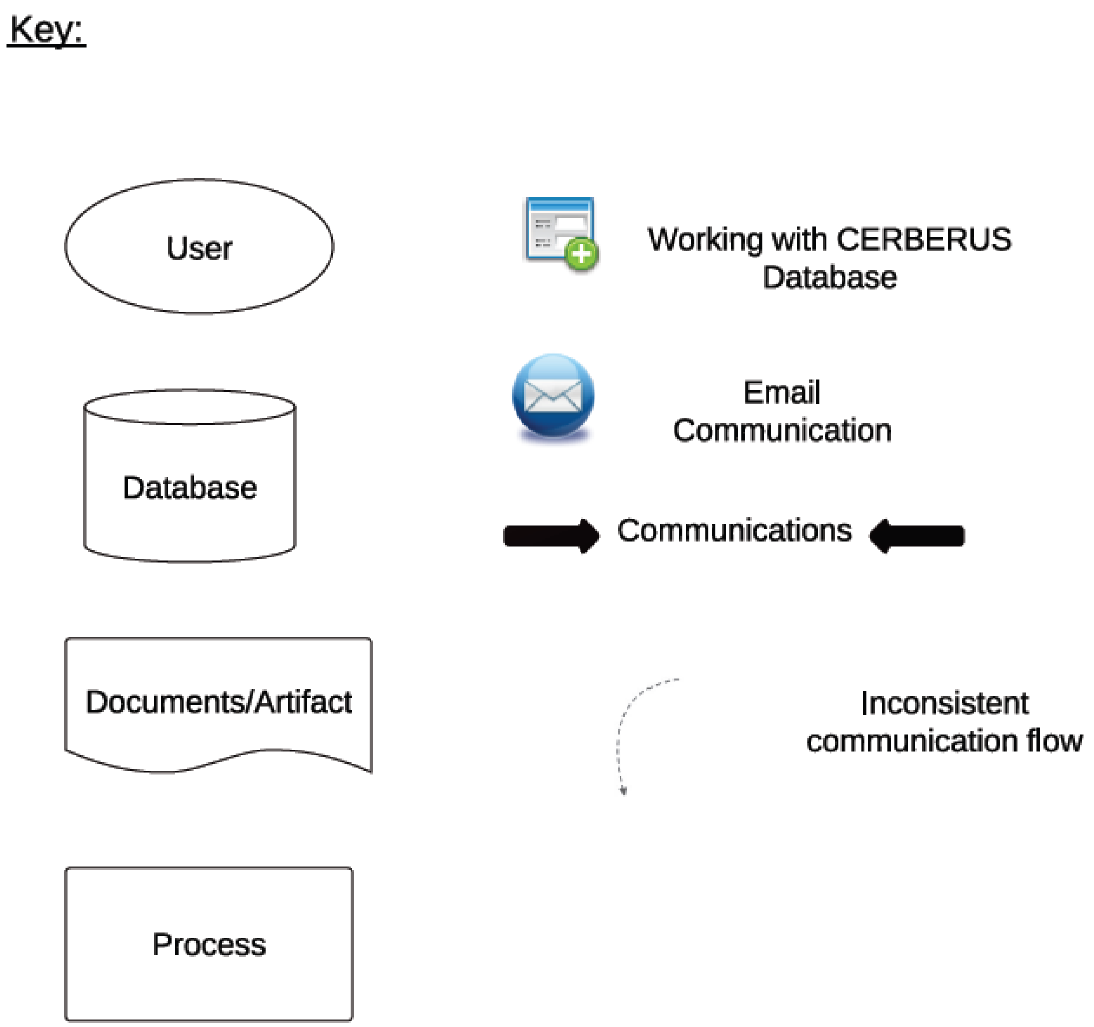
Refer to User number mapping given in Appendix B

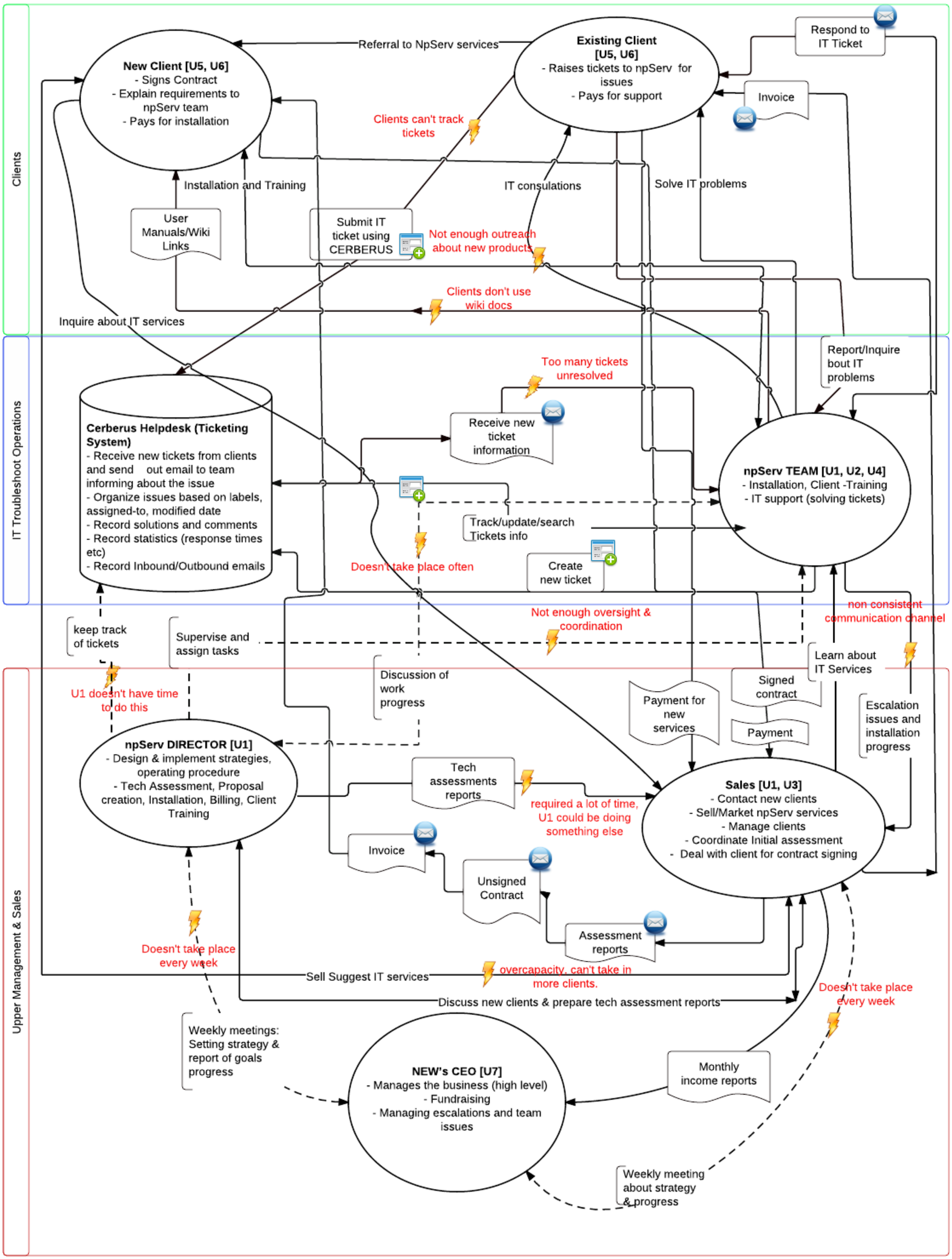
Activity	Intent	Abstract Step	Alternative Steps	Design Ideas
Finding out about a problem from clients.	Help clients to resolve IT problems.	Trigger: receive ticket by: - Email from client. - Phone call - CERBERUS Help Desk ticket. - Continue working on unresolved ticket - Co-worker hands existing ticket.	Breakdown: CERBERUS Help Desk does not offer priority option for clients.	Having monitor to show open tickets so everyone can be in same page.
Log a ticket with details in CERBERUS	- To keep a track of the problem	**Trigger:** Client did not raise a ticket in CERBERUS but informed about the issue via direct Email/Call - Put in details of problem.	Breakdown: most client prefer to call instead using Help Desk reporting. This creates large amount of phone calls flow.	
Analyze the technical issue.	- To understand the problem. - Find the cause of the problem. - Find out who and what has been affected.	- Contact client in case more information is required and re-analyze based on new information. - Screen sharing and troubleshooting remotely to reproduce issue.	- Look over history of similar issues in the past to check how to go about the analysis.	
Deliver solution for the issue	- To fix the problem - Ensure that the fix is robust and does not repeat - To do it in a timely manner based on issue priority.	**Trigger:** Cause of problem identified. - Look over history of similar issues in the past to check what solution was delivered - Test the fix.	- Refer client to online wiki on self-help steps. Breakdown: most client don't utilize self-help Wiki.	

		- Inform the client about the solution and impart training if needed.		
			Trigger: Cause of the problem is not identified: - Ask co-workers for help. - Further online research and calling products help support. - Try the new solution, if found. - On-site visit to resolve issue in person. - If solution not found, refer client to external services or recommend other solutions.	
			Breakdown: client can't track the progress of ticket. So, they call in, which creates more in-calls flow.	Create tracking system for the clients, to keep them informed.
Update & Close ticket in CERBERUS Help Desk.	Create profile of the issue for future reference and use.	Trigger: confirmed the problem has been resolved. - Add details about the solution provided in the ticket - If issue is resolved and client is OK with the solution, close the ticket	Breakdown: no feedback process to evaluate work down by U2, U4.	

Appendix D – Consolidated Communication Flow Model

Refer to User number mapping given in Appendix B





Clients
IT Troubleshoot Operations
Upper Management & Sales
New Client [U5, U6]
- Signs Contract
- Explain requirements to npServ team
- Pays for installation
Referral to NpServ services
Existing Client [U5, U6]
- Raises tickets to npServ for issues
- Pays for support
Respond to IT Ticket
Invoice
Clients can't track tickets
Installation and Training
IT consulations
Solve IT problems
User Manuals/Wiki Links
Submit IT ticket using CERBERUS
Not enough outreach about new products
Clients don't use wiki docs
Inquire about IT services
Report/Inquire bout IT problems
Too many tickets unresolved
Receive new ticket information
Cerberus Helpdesk (Ticketing System)
- Receive new tickets from clients and send out email to team informing about the issue
- Organize issues based on labels, assigned-to, modified date
- Record solutions and comments
- Record statistics (response times etc)
- Record Inbound/Outbound emails
npServ TEAM [U1, U2, U4]
- Installation, Client -Training
- IT support (solving tickets)
Track/update/search Tickets info
Create new ticket
Doesn't take place often
Not enough oversight & coordination
non consistent communication channel
keep track of tickets
Supervise and assign tasks
Discussion of work progress
Learn about IT Services
Signed contract
Payment for new services
Payment
Escalation issues and installation progress
U1 doesn't have time to do this
npServ DIRECTOR [U1]
- Design & implement strategies, operating procedure
- Tech Assessment, Proposal creation, Installation, Billing, Client Training
Tech assessments reports
required a lot of time, U1 could be doing something else
Sales [U1, U3]
- Contact new clients
- Sell/Market npServ services
- Manage clients
- Coordinate Initial assessment
- Deal with client for contract signing
Invoice
Unsigned Contract
Assessment reports
Doesn't take place every week
Sell Suggest IT services
overcapacity, can't take in more clients.
Discuss new clients & prepare tech assessment reports
Doesn't take place every week
Weekly meetings: Setting strategy & report of goals progress
NEW's CEO [U7]
- Manages the business (high level)
- Fundraising
- Managing escalations and team issues
Monthly income reports
Weekly meeting about strategy & progress