

Virtual Trusted Financial Advisor (VTFA)

Operational Scenario Walkthrough

Support Material for Intuit Patent Application Process

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Background

The Virtual Trusted Financial Advisor (VTFA) is envisioned as a service rendered to individuals via “in the cloud” computing – meaning by a system hosted on servers accessible over the Internet and requiring little-to-no installation of software or other components on the user’s computer. The VTFA as described here and other documents intends to provide the user with one location where all the user’s financial data can be accessed, reviewed, and reported, and from which transactions can be initiated and confirmed.

Most important, however, is the vision of VTFA as a system which, by virtue of having access to all the user’s financial data, plans and goals, as well as other relevant data the user may choose to enter, the VTFA can proactively assist the user with planning and executing actions that will significantly improve the user’s financial status, stability and growth.

A hired financial advisor would have as their objective helping the client save more, spend less, prosper, reach their financial goals and be more at ease about the state of their finances. The VTFA is intended to achieve that same objective, through an automated system. A personal financial advisor would require as much detailed information about their client’s financial state, goals and plans as the client felt comfortable giving, in order to help with planning. The VTFA would require the same sort of data, but would also have access, just as a person would, to information outside the client’s realm in order to provide suggestions for change that would benefit the client. Therefore, in addition to user information, the VTFA system would need to access information from the larger internet, and be able to analyze such data against the backdrop of the user profile and bring opportunities to the user’s attention for action.

The following Scenario Walkthrough is intended to give a bit more detailed – if hypothetical – view of how the VTFA would perform in use. It is organized into two sections to outline how the system might behave over time:

- Initialization – Detailed - the system is first accessed and setup by the user
- Ongoing use – Overview behavior of the system in subsequent use

A hypothetical family is employed to personalize the context of the scenario:

- Adam – husband and father
- Bea – wife and mother
- Carol – daughter, High School student with college aspirations

The family has a number of accounts with various institutions – checking, savings, investments, loans, etc. Managing those finances is a chore, planning is thin, and the family wants to plan better but cannot afford to hire a financial manager. They decide to try the VTFA.

Initialization

Bea handles most of the finances. She feels the need for help in managing the various accounts, and wants to plan better toward achieving financial goals. She signs up for the VTFA.

- Bea sets up her account with the VTFA, including login information. The system prompts her for a username, password and challenge questions. These are stored as her primary identification data with the VTFA itself, and will be her login information every time she accesses the system. She establishes herself as the administrator of the VTFA account.
- The VTFA prompts Bea to enter any additional users of the system. As administrator, she establishes an account for Adam. She creates a username and a temporary password for Adam, which he will use the first time he logs in. Bea establishes Adam as a full administrator of the system, able to view and act upon all areas of the system and on all accounts.
- Bea begins setting up her own user profile, including the family's home address, telephone numbers and other basic data.
- After establishing her user profile, the system walks her through linking to all the financial accounts she wants centralized in the VTFA. She provides the internet address of each financial institution's online site and enters the account login information for each account. The VTFA can use this information to log into those accounts and access/download the financial data stored there – accounts, balances, transactions, account types, etc. When Bea indicates that she has added all the accounts she wishes the system logs into those accounts, accesses the data, downloads the last 30 days of transaction history into its own database, and presents Bea with an overview of all the accounts she entered.
 - The VTFA also displays a “Draft Balance Sheet” calculated from the account data accessed. Current balances of all deposit and investment accounts are totaled, as are loan and other debt accounts like credit cards accounts, and a tentative Net Worth is calculated and displayed.
 - Bea can add, delete or update financial accounts at any time, as can Adam.
- At this stage, the VTFA begins offering its first financial recommendations. The VTFA has analyzed the state of the accounts, has reviewed account offerings by Bea's entered banks and other banks online. The system has concluded that some actions could benefit Bea and her family financially. Bea is presented with a prompt:
 - “I have three recommendations for you that may save you money. Would you like to review them? Yes / Later / No
 - Bea selects yes, and is presented with a screen with three recommendations:
 - Your Checking Account #123 with Bank A is not free, because you are still receiving paper statements. If you go to electronic statements only, you can save approximately \$100 per year in fees. What would you like to do? Accept/ Consider Later / Decline
 - Your Savings Account #456 with Bank B returns 1% Interest. Bank C is offering 1.5% interest for Savings Account Type 1. You already have a Checking account with Bank C. If you moved your balance you could gain an additional \$75 per year on your current balance. What would you like to do? Accept/ Consider Later / Decline
 - Your Credit Card Account #789 with Bank C charges 12.65% interest. Bank B is offering a balance transfer Credit Card account that charges 9.5% interest. If you

- moved your balance you could save \$315 per year on your current balance.
What would you like to do? Accept/ Consider Later / Decline
- The three recommendations are followed by:
 - Total yearly savings from all 3 recommendations: \$490
 - Action on all 3 recommendations? Accept /Consider Later / Decline
 - Bea accepts the first recommendation
 - Using the login credentials that Bea entered earlier, the VTFA logs into her account with Bank A and turns off paper statements. The system returns a prompt “Recommendation Completed”
 - Bea selects “Consider Later” for the remaining two recommendations
 - The VTFA prompts Bea for a time when she would like to be reminded of the recommendations. She selects “One Day”
 - The VTFA asks if she wants to share these recommendations with another user. She selects Adam. When Adam logs in later, the VTFA will present the remaining two recommendations to him as being under consideration by Bea.
 - The VTFA records Bea’s selections in a log file.
 - The log file can be accessed by Bea or Adam at any time to review the past recommendations and the actions they took.
 - Even declined actions are recorded and can be reviewed and accepted or considered at a later time.
 - The VTFA uses this log file as a knowledge base when generating recommendations. Knowing the sorts of recommendations that have been accepted or considered will lead the system to find similar possibilities in future sessions.
 - With account access set up for now, the VTFA provides options for the next area she can set up:
 - Budget Plan
 - Goals Plan
 - Family Profile
 - Vendor Profile
 - Bill Payment
 - Bea selects “Budget Plan”. She feels that the most important thing her family needs is a way to control spending. The VTFA walks her through a number of steps
 - First, it performs an initial categorization of the spending data it has downloaded from all institutions over the last 30 days. It presents this data to her in a chart, showing totals of categorized spending.
 - Bea can “drill down” into each category to see if the VTFA has properly categorized the transactions, If she finds some that do not match, she can change them to other categories. She can accept the default categories or create her own, and set transactions of certain types or to certain vendors to always be categorized as she wishes in future. Once she sets these rules, all previous and all future similar transactions will be categorized as she has established.
 - With the transaction categories set up, Bea can see where her spending has gone over the last 30 days. She then uses the VTFA’s budget planning tool to establish limits on certain categories of spending.
 - She sets a rule that “Entertainment” should not exceed \$250 per month.
 - She sets a rule that “Grocery” should not exceed \$750 per month
 - She sets a rule that “Discretionary” should not exceed \$200 per month

- Bea continues setting as many category budget limits as she wishes. She can add, update or remove any of these rules at any time.
- Once Bea indicates that she is finished with her Budget Plan for now, the VTFA calculates and graphs how her spending over the last 30 days meets her budget. It indicates with clear graphic charts and warning flags where she has exceeded the limits and with clear indicators of areas where she is within or under her budget rules.
- The VTFA analyzes the spending data against Bea's established budget limits and makes its second set of recommendations:
 - Your current Entertainment spending is over your budget by 25%. I see that you make a number of trips to a local movie theater. Online Movie Service A is offering a discount to new subscribers. If you subscribe to the service you could bring your entertainment spending under budget by 5%. What would you like to do? Accept/ Consider Later / Decline
 - Your current Grocery spending is over your budget by 5%. I see that you do most of your Shopping at Store A. The prices at Store B are generally 5% lower than Store A. There is a Store B 5.2 miles from your home. If you did your shopping at Store B, you could bring your grocery spending in line with your budget. What would you like to do? Accept/ Consider Later / Decline
 - Bea accepts the first recommendation.
 - The VTFA opens a new window and accesses the sign up page of the online movie service. The service is offering a special discount for new subscribers who found them through the VTFA. Bea opens an account with the service and selects her first three movies. She makes a mental note to tell the family that they will be watching more movies at home from now on.
 - Bea knows where Store B is. But she is curious as to what the VTFA can do and accepts the second recommendation.
 - The system responds: There is nothing I can do to carry out the recommendation. However, Store B is offering a special coupon book online for new customers. I can also show you a map of Store B's location. Would you like to see them? Yes / Later / No
 - Be Selects Yes
 - The VTFA opens a window and opens the page from Store B which offers discount coupons. Be prints the page and will use the coupons during her next shopping trip.
 - The VTFA opens another window with a map locating Store B with driving directions included.
 - Bea prints the map just to show Adam later.
 - The VTFA records Bea's selections in the log file. Having accepted the recommendation to shop at Store B, the VTFA will remind her of her acceptance if future spending for Grocery category items continues to be with Store A and she is not meeting her budgetary constraints. Store B will continue to offer new customer coupons with future recommendations until Bea redeems them.
- Bea ends her session with the VTFA.

- Later that day, Adam logs into the VTFA and is prompted to change his password, enter his challenge question answers and begin setting up his personal profile. After he completes this, he is prompted:

- Bea is considering some of my recommendations and wants you to review them. Would you like to see them? Yes / Later / No
- Adam selects yes. The VTFA displays the two recommendations that Be marked “consider” earlier”
 - Your Savings Account #456 with Bank B returns 1% Interest. Bank C is offering 1.5% interest for Savings Account Type 1. You already have a Checking account with Bank C. If you moved your balance you could gain an additional \$75 per year on your current balance. What would you like to do? Accept/ Consider Later / Decline
 - Your Credit Card Account #789 with Bank C charges 12.65% interest. Bank B is offering a balance transfer Credit Card account that charges 9.5% interest. If you moved your balance you could save \$315 per year on your current balance. What would you like to do? Accept/ Consider Later / Decline
 - The three recommendations are followed by:
 - Total yearly savings from all 3 recommendations: \$390
 - Action on all 3 recommendations? Accept /Consider Later / Decline
- Adam accepts the first recommendation
 - Using the account login information entered earlier, the system logs into Bank C. The VTFA accesses Bank C’s Account Open and Fund tool and opens a window with the application filled in nearly completely. Adam makes a few more entries and confirms the application.
 - In response to Bank C’s request for funding the account, the VTFA logs into Bank B’s site on Adam’s behalf and initiates and transfer of the money from Savings Account #456 to the new Savings Account at Bank C.
 - Bank C acknowledges receipt of the transfer request, and indicates that a notification will be sent when the transfer is complete.
 - (Later, when the completed transfer is marked complete, the VTFA will notify Bea or Adam in another session, and will ask if they want to close the old savings account. If Bea or Adam accept the action, the VTFA will log into Bank B’s site and close the account, with a final confirmation action needed by Bea or Adam)
 - The VTFA logs the action in the activity database.
- Adam accepts the second recommendation
 - The system performs a similar action as the Savings account transfer above:
 - Logs into each bank respectively
 - Applies for the new account, requesting confirmation from Adam where needed
 - Initiates the transfer of the funds from the higher interest credit card account to the lower
 - Confirms when the action is completed
 - Logs all the actions
- Adam decides to complete the Bill Payment and Vendor Profile sections next
 - He enters all their payees into the bill payment system. The system responds with notifications regarding the payees:
 - Each of the payees listed below offers E-Bill capability. I will accept the e-bill statements and you can set up automatic payments, or elect to be notified

when the e-bills arrive. Would you like to set up e-bills for these payees? Yes / Later / No

- Adam selects Yes
 - The VTFA logs in to the bill payment vendor site and the payee's sites where needed, and enrolls for e-bill receipt from each of the vendors
 - The VTFA sets up the e-bills in its own database for reporting and use in analysis later.
- After completing setup for payees and bill payment, the VTFM prompts Adam:
 - I see that your home phone service is with Phone Company A. Phone Company B charges approximately 10% less for the same service, and is offering a 12-month discount for new subscribers. What would you like to do? Accept / Consider / Decline
- Adam selects Consider, sets a time to be reminded of the recommendation, and indicates that he wants Bea to be shown the recommendation the next time she logs in.

Ongoing Use

Six months after starting to use the VTFA, logging into the system is a commonplace part of every day for Adam and Bea, just like checking their email. They can access the system from any computer, even simultaneously, so they sometimes communicate through it by considering recommendations and setting them to be seen by the other. There is also a message board where they can leave notes to one another, and a live chat system.

Soon after the initial setup, Adam and Bea completed the Goals Plan and Family Profile sections of the system. They set a number of goals, including:

- Modifying their Budget plan to increase their savings in several areas
- Setting up savings plans for Carol's college tuition costs
- Starting a savings plan for Dave's future schooling needs
- Establishing goals for their retirement funds

By completing the Family Profile section, the VTFM has information about each of them that it will use to make recommendations that analyzes their current and ongoing financial state and offers recommendations to help them meet their budgetary constraints and goals. Some examples include:

- I see that Carol's first choice for college is University A. Tuition and other costs for University A average \$15,000 per year. At the rate you are currently saving in College Account #123, this account will only be able to cover the costs for the first 1.5 years. I have three recommendations for how to meet your goal of sufficient funds for 4 years. Would you like to see them?
- I see that your goal of a combined retirement fund of \$1.5 million is in jeopardy. At the current rate of contribution, you would only achieve 65% of your goal. I have five recommendations for lowering spending, increasing your contributions and opening additional accounts. Would you like to see them?
- I have prepared a report of the last six months activity and your progress toward your goals. Overall, you are on track, but there are areas where improvements could be made. The report includes recommendations. Would you like to see the report?

Within a year, Adam and Bea not only feel more in control of their finances, but are well on their way to achieving the sort of long-term plans they never thought possible.

VTFA Concept Diagram

Virtual Trusted Financial Advisor (VTFA)
System Concept Diagram
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