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Requirements for Membership Administration

Customer: The Tax Payers' Association

Background: The Tax Payers' Association is a newly established political association. Currently it has about 300 members, but experience from a neighboring country suggests that this may grow to more than 50,000 members within a few years. The administrative support is provided by some of the Parliament secretaries in their spare time.

Purpose: The system shall support the secretaries in keeping track of members, their participation in various activities, distributing mail, and keeping track of payment of fees.

Supplier type: Three possibilities are considered. (1) An in-house system developed by one of the secretaries who has much experience with membership administration and some experience with Access development. (2) A tailor-made system provided by a local software house that develops similar applications. (3) An off-the-shelf system for membership administration. The customer wants to choose the supplier later when the requirements are have been made.

Technical interfaces

R1: The system shall use the following technical interfaces:

Platform: The system shall run on a PC running Windows 98. Data files are stored in an existing file server with existing backup facilities. Development tool: MS Access 97. Preferably the system should allow a few simultaneous users (see risk areas below).

ZIP code files: The system shall use the standard ZIP codes and country codes provided by the Postal Office. Might for instance be transferred manually as a comma-separated file.

Payment files: The system shall efficiently support the payment registration formats provided by the Bank Association. In the long term, computer files with payment data must be used. See the task descriptions below.

Word and Excel: The system shall allow transfer of member lists and search results to Word and Excel. See the task descriptions below, e.g. tasks 2, 5, 6.

Tasks to be supported

R2: The system shall support the following user tasks:

Task 1, Handle a member call

Purpose:	Service a specific member in various matters, e.g. enroll as a member, enroll for a course, review the member's payments.
Trigger:	A member phones, sends a letter, or sends an e-mail.
Frequency:	Usually at most 10 times a day by phone. Up to 50 by mail, but they may be batched by the secretary.
Critical:	When the deadline for a conference approaches. May cause 150 phone calls per day.
Sub-tasks:	
1.1	Look up the member by means of member code, name, or sometimes address.
1.2	Review and modify address and other membership data (optional).
1.3	Enroll the member in an activity (e.g. a conference) or modify the enrollment (optional). Specify the fee to be paid by the member. Usually it is a standard fee for that activity, but individual fees are possible. The fee for the activity is not posted on the member's account until it has been decided that there are enough participants to run the activity (see task 5).
1.4	Review and modify the member's account, e.g. to see whether payments have arrived or amounts are due, add transactions, etc. (optional).
Variants:	
1.1a	A new member wants to enroll.
1.1b	A person who is not a member wants to enroll on an activity.
1.3a	The activity is fully booked, so the member may have to go on a waiting list.
1.3b	Sometimes convenient to check the waiting list before looking up the member.

Task 2, Extract member lists

Purpose:	Find lists of members according to various criteria. Use the lists for general information, mail merge, spreadsheets, etc.
Trigger:	Many types, e.g. - a member calls to get assistance from another member in the same geographical area and with knowledge about income tax. - the chairman wants a letter to be sent to all members interested in energy taxes. - the list of participants on a conference is to be printed. - the chairman wants to send a "thanks for your contribution" letter to all members who have paid a gift, supported a conference, etc.
Frequency:	Probably less than 10 times a day, but difficult to estimate at this point.
Critical:	(none)
Sub-tasks:	
2.1	Specify any member data or combination of data as the search criteria.
2.2	See the result and modify it manually by deleting or adding members, and by hiding or showing fields (columns).
2.3	Select any member on the list and see the member details.
2.4	Transfer the list to Word or Excel (optional).
Variants:	(none)

Task 3, Record payments manually

Purpose:	Record payments received from members, e.g. yearly membership fee, fees for activities (e.g. conferences), gifts to the association.
Trigger:	- a payment list arrives from the Bank Association. The list is a photocopy of the pay slips. - a check or cash arrives by mail.
Frequency:	Up to 50 per day, typically when a conference takes place.
Critical:	At the beginning of the year when the annual invoice has been sent to all members. Will be handled in batches.
Sub-tasks:	
3.1	Lookup the member by means of member code, part of the name, or sometimes address (data in the payment list may be hard to read). Sometimes name etc. is missing entirely and you have to call the bank to trace the payment.
3.2	Post the paid amount with the proper text. The user should be able to set a default text and change it during the task. Selection from a list of standard texts may be convenient.
3.3	Review and modify address and other membership data (optional).
Variants:	
3.1a	A new member enrolls by sending the yearly fee along with a note. Similar to Task 1.
3.2a	A person who is not a member enrolls on an activity by sending the payment with a note on. Similar to task 1.

Task 4, Record batch payments

Purpose:	Record payments received on a computer medium.
Trigger:	A payment file arrives from the Bank Association. The file is a comma-separated file from an OCR-scan of the pay slips sent out by the Association, e.g. through task 5.
Frequency:	Once per month.
Critical:	At the beginning of the year when the annual invoice has been sent to all members.
Sub-tasks:	
4.1	Specify the text to be indicated on the account transactions. Start the computer handling of the payment file. Selection from a list of standard texts may be convenient.
4.2	Manually handle any payments that the computer couldn't post on a member account.
4.3	Verify that everything is handled, e.g. by means of hash totals.
Variants:	(None. Enrollment cannot occur here since the pay slips are sent out by the Association)

Task 5, Invoice and post fees

Purpose:	Record that a fee is due and send an invoice with an attached letter.
Trigger:	- the annual fee has been determined. - it is decided to run an activity (there are enough participants).
Frequency:	About twice a month.
Critical:	(none)
Sub-tasks:	
5.1	Specify search criteria for the members who have to pay (any member data or combination of data may be used as search criteria).
5.2	Specify the fee and the text for the account transactions. Selection from a list of standard texts may be convenient.
5.3	See the resulting list of members and fees. Modify it manually by deleting or adding members, modifying fees, and hiding or showing fields (columns).
5.4	Perform the automatic posting for the members on the list.

5.5	Print letters and invoices. Possible solution: transfer the member list and the fees as a mail-merge to Word, where the cover letter and invoice are printed.
Variants:	
5.1a	Select the members enrolled on an activity. Members who have already received an invoice shall be excluded.
5.2a	When an activity is chosen, take the text from the activity list and the fee that was determined at the time of enrollment (see subtask 1.3).

Task 6, Review accounts

Purpose:	General accounting for the Association is manual for the first period. The Membership system shall provide summary data of fees and payments for posting in the manual accounting system, and the auditor shall be able to check them. Furthermore, it shall be possible to send reminders to members who haven't paid.
Trigger:	Any time.
Frequency:	A few times a year.
Critical:	(none)
Sub-tasks:	
6.1	For a specified period of time, compute totals of all amounts paid, all fees charged, and the balance of all member accounts (optional).
6.2	Print the totals (optional).
6.3	Show a list of all members that have a net debt above a specified limit (optional).
6.4	Select any member on the list and see his member details (optional).
6.5	Transfer the list to Word or Excel for printing of reminders or further analysis (optional).
Variants:	
6.1a	For special reports, e.g. summaries of fees charged for an activity, the auditor is expected to use the basic queries and report generators in Access.

Task 7, File maintenance

Purpose:	Create, update and delete activities (e.g. conferences), member categories, and maybe standard transaction texts.
Trigger:	Any time.
Frequency:	About once a month.
Critical:	(none)
Sub-tasks:	Trivial create, update, and delete operations.
Variants:	(none)

Data to be stored

R3: The system shall store the following data:

Data about members

Member is a generic term that covers real members who pay an annual fee, *observers* that don't pay fees but receive information from the association, and *temporaries* who participate in activities, but don't pay the annual fee (usually they pay a higher price for the activities).

For each member the system shall keep track of these data:

Data volume: Up to 100,000 members.

Member code: May be a simple sequential number, but the customer would prefer the enrollment year as part of the code.

Person, company, or employee: The system must handle personal membership, company membership (at a special fee), and membership for employees in the company (covered by the company's fee). The system must keep track of the relation between company and employees.

Name, address1, address2, address3, zip, country: Usual address fields.

Home phone, mobile, work phone, fax, email, url: Usual phone, e-mail and Website addresses.

Delegate: Member of the board of delegates.

Executive: Member of the executive board.

Previous member: Resigned members. Also set by the administrator when a member hasn't paid for some time.

No ads: The member doesn't want information from the association.

Observer: The person or company is not a true member and doesn't pay membership fees, but the board has decided to send informative material anyway.

Temporary: The person or company participates in an activity, but doesn't pay membership fees and doesn't receive information.

Date created: The date the membership was recorded.

Last changed: The last date where the member's data was changed.

Comments: Free text.

Categories: A list of the categories to which the member belongs, e.g. interested in energy tax, willing to help at meetings, willing to distribute letters. The member may belong to several categories. The categories are selected from a table of categories (see below).

Account transactions

Each member has an account where account transactions are kept. The system shall keep track of these data:

Data volume: 400,000 per year (about four transactions per member per year).

Date: Date posted.

Activity code: Used only for fees associated with an activity.

Text: A descriptive text. In case of a fee for an activity, the text is generated by the system from the activity list.

Amount: The amount paid (positive) or the amount due (negative). In case of an activity, it is generated by the system from the activity list.

Activity participation

Each member may participate in a number of activities. The system shall keep track of these data:

Data volume: 100,000 per year (in average at most one per member per year).

DateTime: The date and time when the member enrolled on the activity. Priorities on the waiting list are given by the DateTime, thus time is needed too.

Activity code: The activity in question – selected from the list of activities.

Waiting: On a waiting list to that activity.

Fee:	The fee to be paid for the activity. Selected from the activity list at the time of enrollment, but may be modified manually.
Invoiced:	The member has got an invoice for the activity. Necessary in order to avoid members being sent an invoice twice if invoices are sent out in several batches.

Activity list

For each activity, the system shall keep track of these data:

Data volume:	About 30 per year.
Activity code:	Any unique number will do. Essential when posting fees for the activity in order to review the income for the activity.
Name:	Name of the activity, e.g. "Basic course in investment taxation".
Start:	The start date of the activity. May be blank.
End:	The end date of the activity. May be blank.
Price1:	The fee for members.
Price2:	The fee for non-members.

Member categories

For each member category, the system keeps track of these data:

Data volume:	Around 100.
Name:	A descriptive name, e.g. "Willing to help at meetings".

ZIP list and Country list

The system shall contain lists of zip codes and country codes as provided by the Postal Office.

Quality requirements:

Response time:	Not critical. Usual Access performance seems sufficient, but a risk to be considered when the data volume grows. See below.
Data volume:	100,000 members. See details under the data requirements.
Usability:	Not critical. There are just two to three users, and they will be given individual instructions on how to use the system.
Maintainability:	Critical. High-risk area. See below.
Reliability:	As usual.
Availability:	As usual on that server.
Fault tolerance:	As usual.
Safety & Security:	As usual on that server.
Portability:	Unimportant.
Reusability:	Unimportant.

High-risk areas:
Maintainability has to be considered as part of selecting the supplier.

R4: The supplier must specify to what extent he can support the system, i.e. provide help hotline, help with ad hoc reports, correct problems, extend the system. Prices for the services have to be specified.

The database may grow to 100,000 members. The customer is not sure whether this is feasible with a reasonable response time.

R5: The supplier shall specify the lookup time to show a member screen when the database contains 100,000 members. (a) When the user specifies the member code. (b) When the user specifies part of the name or the address. If necessary, a simple prototype should be made to actually measure the response time.

The assumption is that one secretary (plus a backup person) will be able to handle the administration. Thus the system may be designed for a single user. However, the possibility for multi-user access should be considered when selecting the supplier.

R6: The supplier shall specify to what extent the system may be used by several users simultaneously.