Fall 2011 - Business Systems Analysis and Design
CISM 4310 Section 01 (crn: # 81590)
Tuesday & Thursday 1230 - 1345
Adamson hall 126
(Syllabus revision: # 062811)

FACULTY DATA:
Dr. Douglas Turner, Professor
Office – Adamson 132
Phone: 678.839.4847

OFFICE HOURS:
- Tuesday 8:00 am – 11:30 am, 1:00 pm – 4:00 pm

CRITICAL INFORMATION:
- This syllabus is subject to change by the Professor. To communicate to the class as a whole the Professor will post changes on the “Daily Notes” at http://www.westga.edu/~dturner/fall11.htm. View the website for daily updates about the course. The contents of the daily notes are technically part of the syllabus contract, read and apply them to your course as they can alter the terms of this syllabus.
- The due dates posted below in the section labeled FALL 2011 SCHEDULE are firm.
- You have the option to submit your deliverables early, but remember that the item first submitted is the one graded.
- Deliverables will be graded against the posted criteria. If there is ANY confusion or something not clear the student has the obligation to ask the Professor about it.

COURSE LEARNING OBJECTIVES:
- The following course learning objectives are specific to the BBA Degree in Management Information System Learning Goals, they are:

1. Have acquired at least limited proficiency in a programming language and several software packages, beyond spreadsheets and word processing. (BBA 3, MIS 1).

2. Understand the basic principles and concepts of business systems analysis, systems design, and data communications. (BBA 3, MIS 1).

3. Apply the above knowledge analogously to other areas of human endeavor. (BBA 6).

COMMUNICATIONS:
- All e-mails are to be sent to dtturner@westga.edu.
- Only assigned University of West Georgia e-mails accounts will receive an e-mail response.
- There will be days during the term that we will meet as breakout groups in various rooms.
- WebCT is only used for posting grades. No submissions or e-mails are answered within WebCT.

PREREQUISITES:
- CISM 3330 and CISM 2335.
- It is expected that all students will be familiar with Win/XP (and current), Excel, Access, and PowerPoint.

METHOD OF INSTRUCTION:
- The focus of this course is the development of a project, the research reports, and presentations.
- The three primary causes of failure in this course are the lack of expectation management with end users, failure to follow project guidelines, and group time management.
- Note that the project methodology presented by the Professor will be used to grade project components and differs slightly with the reference text.
- There are both individual and group graded components of this course.

REQUIRED SUPPLIES:
- (One per group) blank CD (this item will not be returned to the group).
- Windows 95 or better based software and hardware, and CD generation and label capability.
  **Suggested but not required:**
  - A laser pointer for the group is an extremely useful tool during presentations.

DELIVERABLE SUBMISSIONS TYPES:
- **ECD** - Electronic media deliverables are word documents (format.doc), power point slides (.ppt), and excel files (.xls) retained and submitted on the project CD.
- **EML** - Electronic media deliverables are word documents (format.doc), power point slides (.ppt), and excel files (.xls) that are submitted as e-mail attachments to dtturner@westga.edu.
- **PIC** - Paper items deliverables include printed word documents, printed power point slides, and printed excel files ready to turn to the Professor at the beginning of class.
- **PRS** - Media deliverables presented in front of the class by group selected members.

ALTERNATIVE INSTRUCTIONAL SUPPORT:
- A student with special needs or requirements is expected to contact me privately within five business days after the beginning of the course with the appropriate and valid documentation.
- Within ten business days after the beginning of the course the student seeking accommodations for special needs or requirements is expected to define in writing (an e-mail to the professor is acceptable) specifically what alterations or changes to the provisions or requirements of the syllabus are being requested.
- Failure to notify the Professor within the required time lines may result minimal accommodations.
GROUPS EFFORTS:
- As groups are self selected there will be no team reassignments.
- Preferably groups will consist of a maximum of four members.
- Chose you team carefully as they are with you for the entire term!!!
- Each team will offer a single point of contact (name, e-mail, and telephone number) for the Professor to use as an information clearinghouse to the group.
- This is a very time consuming endeavor resulting in the iterative development of a substantial project.
- Students can expect to encounter a variety of interesting challenges in learning the concepts of system development and in applying these concepts in real-world situations.
- Learning to effectively use a systems modeling tool will be a part of this process.

INDIVIDUAL EFFORTS:
- Each student in each group will be assigned a Data flow diagram (DFD) “leg” to decompose from the select group project.
- Each student is individually responsible to prepare 24 atomic level processes and the associated data (Include on CD under DIR:SEC_III, SDIR:<student’s last name).
- The DFD leg will comply with the graphical and data standards utilized at the group level.
- An atomic level process is defined as the lowest state of decomposition of a DFD (none exist on the content and system level).
- Each individual student will take one exam.
- Each individual student will prepare a research paper.
- Each individual student is required to participate in the review of projects during the five demonstrations.
- Each individual student is required to participate in the review of final projects (instructions for completing the student review matrix to be announced).

INDIVIDUAL PROJECT RESEARCH PAPER:
- The research paper is ECD, EML, PIC, and PRS.
- The research paper topic will be focused on the appropriate technologies that could/should be incorporated in the business environment under study.
- Adherence to the format requirements is critical for a positive grade.
- The topics selected may be taken from a broad view of Information Systems.
- Data must expand beyond what is currently available to MIS students from other classes.
- Strongly consider the future use of the paper topic (where will it be next year?).
- Topic must be submitted in the group project proposal; topics will be posted as accepted or rejected by the Professor posted on the 4310 web page.
- There are twelve NON WEB BASED references required for each paper, GO TO THE LIBRARY.
- No Wikipedia or “pedia” anything styled references. All web references must be specifically authored by an individual name, or multiple authors and preferably blind peer reviewed.
- There is a minimum 2600 word count for each paper (excluding references).
- Look to the Web only to identify topics and parameters of the paper, consider discussing the applications, strengths, and weaknesses of the topic of interest.
- At least one definitive tool or technique (i.e; SWOT, value chain, BCG matrix) found in texts like “Strategic Management” Thompson and Strickland will be explained and applied to the paper topic to assist in the analysis.
- The paper will have at least the following sections of an introduction, literature review, analysis tool use, discussion of technology use, and a conclusion of future technology use.
GROUP PROJECT PROPOSAL:
- The project proposal is PIC, ECD, and PRS.
- Each group will establish a single word name for the group.
- Each group will submit and present the proposal and history to the class.
- There must be at least enough major level processes for each group member (those processes at the context level).
- Limited electronic delivery (ppt) may be used.
- The project proposal submission will include:
  - The Organization’s name, Organization’s contact name, telephone number and address (The organization should have minimum of ten members).
  - Listing of group members, each member’s e-mail address, and the name and telephone number of the contact member.
  - Description of group organizational structure chart of associated duties.
  - Identify which DFD leg each student wishes to be assigned.
  - Brief description of objectives and time line for the DFD project.
  - A list of the proposed and assigned topics for each individual research papers that is applicable to your company project.

GROUP HISTORY OF THE FIRM AND SYSTEM DESCRIPTION:
- The history and system description group synopsis is ECD, EML, PIC, and PRS.
- This report will have a minimum 500 words per member, no references required.
- Adherence to the format requirements is critical for a positive grade.
- Limited electronic delivery (ppt) may be used.
- The submission will include:
  - Who owns it, and why the firm exist.
  - What is the nature of that specific business market (i.e; competitors, customer expectations).
  - A description of the current system under study (what hardware/processes are in place).
  - A discussion of the problems observed with the current system.

GROUP CHANGES REPORT:
- Group change report is ECD, EML, PRS.
- The purpose of this report is to define at least three structural, technical improvements, or changes that are being recommended based on the project analysis (FILE:CHANGE_DOC).
- Adherence to the format requirements is critical for a positive grade.
- This report will have a minimum 800 words per member, no references required.
- Utilize the individual research papers topics if possible, not all topics need to be represented.
- Caution concerning severe penalties for cut and paste of research paper content data.

GROUP DFD DEMONSTRATIONS:
- Group demonstrations are PRS.
- Present relevant material and get full credit, present nothing and receive nothing, do not attend or participate and receive nothing.
- Please engage in the review discussion.
- Each team should complete as much as possible as soon as possible, but at a minimum each group is expected to bring the appropriate electronically stored DFDs to each group demonstration class session (in the 03 Excel format) for review on the computer in front of the entire class.
- Coordinate where your problems are and use those for the class discussion.
- The more attention you pay to the other projects, the more apparent the problems of your own project will become.

**Group DFD demonstration_1** - Context and Systems level DFDs, and project proposal.

**Group DFD demonstration_2** - Correct/completed Context and Systems level DFDs, all entity dictionary descriptions, and the presentation of history of the firm and system.

**Group DFD demonstration_3** - Completed single “leg” DFDs, two examples of data store content with M-LOGs.

**Group DFD demonstration_4** – Two correct/completed single “leg” DFDs (with process names), two corrected examples of data store content with M-LOGs. This is the last opportunity to engage in questions concerning methodology and project requirements. If you have questions ask now.

**Group DFD demonstration_5** - Complete drill down of all DFDs (Note: these demonstrations will not cover the entire project requirements, see the Project Notes for actual details). This is the last opportunity to engage in questions concerning the project CD layout. If you have questions ask now.

**GROUP FINAL PROJECT PRESENTATION:**
- Group final projects are ECD AND PRS.
- The group final project has two components; the CD (submitted to the professor) and the presentation of the final project in front of the class.

**TROUBLE SHOOTING:**
- Each team is expected to maintain adequate control of back up programs and data.
- Loss of a system or data is not an acceptable response to project requirements and consultation reviews.
- Each team must organize and manage itself to effectively meet the requirements of the Professor and the user for whom you will be developing a system.
- It is strongly recommended that members on each team be assigned the task of contact point, archive librarian, hardware specialist, software specialist, quality assurance proof reader (text), diagram flow consistency proof reader, treasurer, prototype coordinator, and presenter.
- You may discover other major tasks that should be assigned as well.
- Consider assigning a primary and secondary role to each team member.
- However, all team members should be knowledgeable in all aspects of the project.

**PEER EVALUATIONS:**
- Peer evaluations incorrectly submitted or late are not valid, thus assumed full 100% credit to all members.
- Peer evaluations are PIP (see schedule).
- Peer evaluations must be completed, signed, folded, and stapled to be valid.
- Use values ranges from 0% and 100%, in increments of five points, without self assessment.
- Peer evaluations are confidential; no feedback will be given except in the form of a single individual student grade.
- Peer evaluations will be collected in class, please submit them folded.
FORMAT OF DOCUMENTS:
- The first submission received will be graded against the requirements, turn in what you wish to be graded the first time, there are no “corrected copies” or “do-overs”!
- Variances found between ECD, EML, and PIC deliverables will result in a lower score or grade.
- As this is a business course all submissions will be of business content and quality. There is no “I” when writing in this environment, eyes are for reading.
- Substantial point deduction (including 0 points for submission) for format, grammar, and punctuation errors.
- Utilize current APA style format standards (with the additional requirement of full justification).
- Always print only on one side of the paper, always double spaced sentences, page numbers, times new roman 12, and laser print quality minimum. Maintain consistency of spacing between sentences. Using single sentence paragraphs demonstrates a poor writing style.
- Proper notations within the body of the text and the corresponding citations in the reference section are required.
- A cover sheet is always appropriate for any PIC report.

ATTENDANCE:
- Attendance is expected every day regardless of the assignment, whether it is in class, in the break out rooms, or at the work site with the end users.
- There is no day of grace from class assignments or obligations.
- Failure to participate or engage in class activities will count as NOT ATTENDING class.
- Loss of attendance and the scheduled activity points for each day you fail to attend class.
- If the Professor cancels a schedule class you will automatically get full attendance credit.
- You are considered missing and attendance credit is lost IF YOU ARE LATE TO CLASS, or LEAVE BEFORE BEING DISMISSED.
- Attendance is graded.

DEMEANOR:
- The highest degree of professionalism is required when interacting with end users in public.
  - **Proper business attire is always required when meeting with end users.**
- Chose your questions carefully for the end users.
- Never promise change to end users as this is only a study.

OTHER PROJECT DETAILS:
- Never, never pass up an opportunity to meet with you group.
- The final project should address functional problems in the original organizational design.
- Your project should meet the requirements of the end user.
- The project should be creative and explained thoroughly and clearly.
  - **MAINTAIN BACK UP COPIES WITHIN YOUR TEAM. DISKS DO FAIL!**
- Consider the use of a father, grandfather, great grandfather method of data backup.
- Consider keeping a running list of data flow names to prevent duplication.
- Utilize the same printing format required for the word processing of the project.
- Do not expect approval if the team has a minimal grasp of the organization to be studied or is not adequately prepared to discuss organizational particulars.
- Quality issues (graphics, text, grammar, spelling, etc.) can severely damage a project grade.

EVALUATION:
- The total grade is based on a 10 point scale.
Individually generated grades (60 percent)
  a) Individual Exam one 10.0 %
  b) Attendance 06.0 %
  c) Individual DFD production of atomic level processes 24.0 %
  d) Individual research papers 20.0 %

Group generated grades (40 percent)*
  f) Written submitted project proposal 03.0 %*
  g) Written history of the firm 03.0 %*
  h) Group DFD demonstrations_1 - 5 (2.0 points each) 10.0 %*
  i) Change report quality 06.0 %*
  j) Project CD 08.0 %*
  k) Project presentation 10.0 %*
* Properly submitted peer evaluations will alter 50% of the items f, g, h, l, j & k.

COURSE POLICIES:
- Attendance is taken. You are responsible for everything that goes on in class, regardless of your attendance.
- Academic dishonesty includes the making of any type of copy of, or failing to return a test.
- While assignments may be returned to the student(s) for correction and evaluation, all material submitted as part of the course requirements become the property of the Professor.
- As this course is designed to be centered on group work incomplete grades are not given.
- The Professor retains the right to subjectively evaluate an individual student's grade upward in appropriate cases based upon observed performance.
- Within class all computer screens and cell phones are to remain off unless told otherwise.
- Note from the outset that there are components of this course that are **far less structured** than what are normally presented in most courses!
- Individual initiative and responsibility is required to succeed in this course.
- Plan you time carefully, acceptances of late work would require extraordinary circumstances and are subject to the Professors approval.
- A legitimate and verifiable physician or court related written excuse is required to prevent attendance point loss.
- Ensure that you have a file backup method for the worst case scenario.
- It is expected that all programming code will be documented.
- The University of West Georgia Academic Honesty Policy will be enforced.
- Violations of the academic honesty policy may result in expulsion from the University.
- Signing the attendance sheet for another person is deemed to be a violation of the academic honesty policy.
- Lying, cheating, stealing, or engaging in plagiarism in pursuit of one's studies is a violation of academic honesty policy at UWG and will not be tolerated (Please read the university's catalog for the official statement on academic integrity and plagiarism).
- Students are responsible for understanding plagiarism. In general, plagiarism is defined as the use of intellectual material produced by another person without acknowledging its source **(follow the APA guide for proper citation methodology)**.
- The following are some examples of what is considered plagiarism:
  * Copying of passages from works of others into an assignment, paper, discussion or posting, without acknowledgment.
  * Cutting/pasting information available on the web or online databases.
  * Using the views, opinions, or insights of another without acknowledgment.
* Paraphrasing another person's characteristic or original phraseology, metaphor, or other literary device without acknowledgment.
- Violations of the academic honesty policy may result in expulsion from the University.
- Your UWG e-mail account will be the official individual communication method at UWG and access can be found at http://myuwg.westga.edu.
- You are responsible for checking this e-mail account on a regular basis.
- You are not allowed to turn in work completed for another class for credit in this class. For example, you cannot write one paper and turn it in for credit in two different classes.
- Changes to this schedule will be posted in the “Daily Notes”.

<table>
<thead>
<tr>
<th>DAY</th>
<th>DATE</th>
<th>MATERIAL COVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUESDAY</td>
<td>AUG 23</td>
<td>Introduction, discussion, handouts, and team assignments.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>AUG 25</td>
<td>DFD examples.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>AUG 30</td>
<td>Quality Methodologies.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>SEP 01</td>
<td>Present proposal and history.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>SEP 06</td>
<td>Quality Methodologies.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>SEP 08</td>
<td>Work in class.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>SEP 13</td>
<td>Demonstration_1 by groups.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>SEP 15</td>
<td>Demonstration_1 by groups.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>SEP 20</td>
<td>Work outside of class.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>SEP 22</td>
<td>Exam.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>SEP 27</td>
<td>Demonstration_2 by groups.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>SEP 29</td>
<td>Demonstration_2 by groups.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>OCT 04</td>
<td>Work in class.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>OCT 06</td>
<td>Work in class.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>OCT 11</td>
<td>Demonstration_3 by groups.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>OCT 13</td>
<td>Demonstration_3 by groups.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>OCT 18</td>
<td>Work in class.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>OCT 20</td>
<td>Work in class.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>OCT 25</td>
<td>AACSB (work outside of class)</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>OCT 27</td>
<td>Paper Due.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>NOV 01</td>
<td>Demonstration_4 by groups.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>NOV 03</td>
<td>Demonstration_4 by groups.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>NOV 01</td>
<td>Work in class.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>NOV 03</td>
<td>Work in class.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>NOV 08</td>
<td>Demonstration_5 by groups.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>NOV 10</td>
<td>Demonstration_5 by groups.</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>NOV 15</td>
<td>Presentations.</td>
</tr>
<tr>
<td>THURSDAY</td>
<td>NOV 17</td>
<td>Presentations.</td>
</tr>
</tbody>
</table>
ACTIVITIES IN PERFORMING SYSTEMS ANALYSIS AND DESIGN:
- Prepare a thorough history and business description of the firm.
- Define and thoroughly describe the project application.
- Define all users and expected usage of data supplied by your application.
- Define existing logical system, user requirements, and logical proposed system using DFD specifications and analysis/design dictionary entries.
- Preparing a plan for organizational process changes utilizing technology.

PROJECT CD:
- THIS SUBMISSION WILL REMAIN WITH THE PROFESSOR, AND WILL NOT BE RETURNED.
- Below are the details of the CD. Each CD contains directories (dir) sub-directories (sdir), and individual files (file: name).
- Remember the first submission is what will be graded against the requirements.
- The project CD will have a printed label. The CD submission will be submitted in a clear CD case (with the label visible).
- The label will include the group name, the company of study, Semester and year, Dr. Turner CISM 4310, and the names of the group members.

PROJECT CD LAYOUT (all files labeled in lower case):
directory: sec_i (project documentation)
  file: toc.doc (table of contents)
  sdir: group (group project proposal)
    file: org.doc (Organization data)
    file: member.xls
  sdir: history_change (history and changes to the firm)
    file: hist.doc
    file: change.doc
directory: sec_ii (associated project data)
  file: context.xls (current context and system level DFDs)
  file: entities.doc
  file: mlogs.xls
directory: sec_iii (individual student project and DFD data)
  sdir:<student's last name>
    file:major_process.doc
    file:ind_dfd.xls
    file: research.doc
A single Word file containing a complete table of contents (file: toc).

**sdir: group - PROJECT PROPOSAL**

A single Word file containing the organization data (file: org). Define the particulars of the organization being studied.

A single Excel file containing all member data (file: member). Contact and assignment data.

**sdir: history_change – HISTORY AND CHANGE DOCUMENTS**

A single Word file containing the history/system description (file: hist).

A single Word file containing the change report (file: change). May utilize the individual research paper topics and content (severe penalties for cut and paste data).

**dir: sec_ii – ASSOCIATED PROJECT DATA**

A single Excel file containing the current (existing) context and system level DFDs (file: context).

**HOW TO GUIDE FOR DFDS:**

*Using only Excel or approved A&D tool files.* (03 instructions) **TO SETUP GO TO:** Excel > view > toolbar > drawing > autoshape > flow chart.

A single Word file containing the Data dictionary (description) of all entities (file: entities).

Example of Entity report:

<table>
<thead>
<tr>
<th>Object Type</th>
<th>Object Label</th>
<th>Dictionary ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Bank Customer</td>
<td>Context DFD number</td>
</tr>
</tbody>
</table>

**Method of Data Handling**

(leave blank)

**Text Description and Comments**

Customers represent clients with accounts (private and commercial) and visitors without accounts. Both clients and visitors may transact with the bank by walk n and drive in window. Only clients have access for EBT and ATM transactions.

A single Excel file containing the nesting and decomposition of all the M_LOG compositions (file: mlog).
HOW TO GUIDE:
Your project will NOT require SV/MV designations. Below is an example of a M_LOG composition:

M_LOG_CABINET
M_LOG_BACKPAC

M_LOG_CHECK_BOOK

M_LOG_WALLET

LOG_DRIVER_LIC
NAME  SSIN  DOB  LIC_NUMBER  EXPIRE_DATE

LOG_SHELL_CREDIT_CARD
NAME  ACCT_NUMBER  EXPIRE_DATE

M_LOG_ORGANIZER_BOOK

WEBCT_ACCT_NUMBER  WEBCT_PASSWORD

LOG_ADDRESS_BOOK
NAMES  HOME_ADDRESS  WORK_ADDRESS  HOME_PHONE_NUMBER  WORK_PHONE_NUMBER
A sub-directory (sdir: containing all of the exploded DFDs (all the way down to the required number of atomic levels) from the assigned major system level process. This is individually produced and individually graded work.

A single Word file containing the all process identity numbers, names and descriptions. Remember that process names are small and exact at the lower levels, while larger in and length and more generalized as they go up the DFD legs. Use the nesting method similar to the MLOG example below (file:major_process).

A single excel file containing all of the correctly labeled exploded DFDs (file: ind_dfd).

a. Example: Sales and Service XXX00P01; first child XXX0001P00. Diagrams designed in a consistent manner (size, notation, etc.).

b. Processes are best represented by using the format where each process has two numeric values.

c. All atomic level processes will have a distinct color differentiating them from non atomic processes (remember to include data flow labels).

A single Word file containing the individual research paper (file: research.doc).

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**General Application Rules Chart:**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SYMBOL</th>
<th>RULES</th>
<th>LABELS/NUMBER</th>
<th>REQUIRED ENTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>![P]</td>
<td>Each process is unique. DFDs decompose on processes.</td>
<td>Unique name (once per project) and number.</td>
<td>Diagram and Description.</td>
</tr>
<tr>
<td>Stored Data</td>
<td>![D]</td>
<td>Can be nested or reused. Represent the mass logical data stores (MLOG/LOG).</td>
<td>Unique name (once per project).</td>
<td>Description and MLOG/LOG</td>
</tr>
<tr>
<td>Entity</td>
<td>![E]</td>
<td>Must be reused. Entities represent groups of individuals/function providers.</td>
<td>Unique name (once per project).</td>
<td>Description.</td>
</tr>
<tr>
<td>Data flow</td>
<td>![F]</td>
<td>Each data flow is unique. Nested, but not modeled. Each line has two Labels. One way linear relationship are rare!</td>
<td>Unique name (once per project). No label required for linear relationship.</td>
<td>Flow table for ATOMIC PROCESSES</td>
</tr>
</tbody>
</table>
To the process

1  rec_norm_emp_log_computer
2  rec_cont_emp_log_computer
3  rec_emp_reg_data
4  mgnt_reg_supervise
5  req_norm_emp_pmt
6  req_cont_emp_pmt
7  req_mgnt_pmt
8  validate_credit_Check_pmt
9  send_Pmt_credit_data
10 sub_order_pmt_data
11 req_tax_data
12 req_reg_cash_data

From the process

req_norm_emp_log_computer
req_cont_emp_log_computer
req_emp_reg_data
mgnt_correct_supervise
rec_norm_emp_pmt
rec_cont_emp_pmt
update_mgnt_pmt
validate_credit_Check_acct
rec_decision_credit_data
rev_order_pmt_data
rev_tax_data
rec_reg_change_cash_data