What are Project-based examinations?

Projects are used in assessing the outcomes of learning.

In Project-based examinations, candidates demonstrate that they can transform processes into actions by solving a real-world problem in a real organization, and for each subject of study, document the same using a standard format.

A well-documented project report should include:

1. Title Page.
2. Table of Contents.
4. Acknowledgements and/or Dedication.
5. Introduction.
6. Problem definition (Analysis)
7. Design:
   (a). System flowcharts.
   (b). Table / File structure design.
   (c). Input design.
   (d). Output design.
8. Coding.
12. Conclusion.
13. Appendices.

IMPORTANT ITEMS TO TAKE NOTE OF

- The report should have 1.5 / double line spacing.
- The report booklet should have a cover with the author’s name and the title on the front of the cover and down the spine.
- It is strongly recommended that you word process the report, and keep a disk copy.
**Title Page**

The Title page forms the cover page. It includes; *Name of the project, Name of the analyst* and the *Date the proposal is submitted.*

Example of a Title page:

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**BABATI URBAN COUNCIL**  
**REVENUE COLLECTION SYSTEM**

A Project Report on the need to computerize the data processing activities of Babati Urban Council

**PREPARED BY:**

Mutua Mike Mutisya

**INDEX NO:**

.........................

**SCHOOL:**

KIONGWANI SECONDARY SCHOOL

**SUBMITTED TO:**

The Kenya National Examinations Council (K.N.E.C)

**IN FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF KENYA CERTIFICATE OF SECONDARY EDUCATION (K.C.S.E)**

**Date:**

October, 2006.
Table of contents

This helps to guide the reader through the document.

- Check to ensure that the actual heading / subheadings used in the body of the study coincide with the contents page.
- Use of decimal structure with chapters is preferred.
- A list of Tables, Charts, Figures, Photographs and other relevant material should also be listed at the end of the Table of contents.

Example:

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title page</td>
<td>(i)</td>
</tr>
<tr>
<td>Table of contents</td>
<td>(ii)</td>
</tr>
<tr>
<td>Report structure</td>
<td>(iii)</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>(iv)</td>
</tr>
<tr>
<td>1.1 INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.2 ANALYSIS</td>
<td>2</td>
</tr>
<tr>
<td>1.3 DESIGN</td>
<td>4</td>
</tr>
<tr>
<td>1.4 CODING</td>
<td>10</td>
</tr>
<tr>
<td>1.5 TESTING</td>
<td>12</td>
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<td>1.6 USER MANUAL</td>
<td>15</td>
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<td>1.7 RECOMMENDATIONS</td>
<td>18</td>
</tr>
<tr>
<td>1.8 CONCLUSION</td>
<td>21</td>
</tr>
</tbody>
</table>

APPENDICES
REFERENCES

Report Structure

This is a summary of all the work you did (past tense). It should briefly tell the reader everything he/she needs to know about the research hypothesis, methods used to gather data, overview of significant findings and final conclusion.

- Explain what each chapter (subheading) of the project is supposed to do in a paragraph.
  - What was the aim of the project?
  - Who you sampled?
  - What methods of data collection did you use?
  - What are some of the things that you have found out from your fact finding? i.e., what did the results show?
  - What was your overall conclusion?
• What was recommended?

**Example:**
The report is aimed at looking at the problems of the said local authority, and how to introduce a computerized one.

Data will be collected by means of a questionnaire or an interview schedule. A total of 30 respondents comprising of the managers, workers of the council and residents served by the local authority will be randomly sampled, and will be expected to respond to the questionnaire.

The data collection process revealed that, .................................................................

From the findings, it was concluded that .................................................................

It was recommended that .................................................................

**Note.** It should be less than one side of A4.

**Acknowledgements**

This is the section where you are able to acknowledge or thank all those individuals and/or groups who assisted you during some stage of the project.

**Example:**
A project like this is not possible without the help of many others. I acknowledge the enormous input by my Computer Studies teacher, Mr.…………… who was responsible for my training on the use of computers and the various application programs which has enabled me do the artwork and typesetting of the entire project. I also thank him for guiding me on how to acquire knowledge through carrying out research.

I am indebted to my parents, brothers and sisters for my upbringing and education, and have contributed in a very special way to the process of writing this project. They have been patient and kind.

Many others have contributed to my growth and development over the years. They include; my Principal and the other staff members of Kiongwani Secondary school for their guidance and counseling.

I would also like to thank my school mates who have provided comments and suggestions which have led to the improvement of the text.

Lastly but certainly not the least, I would like to thank our Almighty God for all the miracles He has done in my life. I want to return praise to him for the free life He has given me, wonderful opportunities that I have had, the knowledge to share with others and the strength to write this project.

**Introduction**

Introduction aims to address the issue or problem being examined.

– Describe Babati Urban Council fully so that the examiner clearly understands how it operates with a bias to problems, and how it connects to the title of your project.

– In this section, indicate that a problem exists in a descriptive manner.

**NB:** Where applicable, you can give the historical background using the information on the question paper.
Example:

Babati Urban Council is a local authority that provides services to its residents. For it to provide these services, it raises funds through collecting House rent, charging residents for Garbage collection, collecting licensing fees from businesses, collecting money from vendors who transact business in the Open air markets, charging Sewerage connection fee, and also collecting money from all vehicles and carts parked within the urban centers.

In addition, most of the data processing activities of the council are done manually. Some of these activities include:

1. Recording of money collected from residents.
2. Keeping of revenue collection records.
3. Processing of customers’ orders.
4. Generating of reports especially those required by the management, etc.

The council wishes to replace the inefficient manual revenue collection system through developing a computer-based system that would ease the input and processing of data about revenue collection, and provide facilities for updating stored data. The system is also expected to produce a variety of reports such as receipts that are to be used for managerial purposes.

Analysis

In this section, analyse/describe the existing manual system.

- Show clearly what you think are the problems of the current system that may limit the efficient working of the council.
- How did you identify these problems? Show the method of fact gathering that you used, e.g., document review, interview, questionnaires, observation, etc.
  
  Where possible put a sample or a blank questionnaire or interview form.
- Explain in detail your objective, i.e., what you wanted to fulfill.
- Talk about the benefits expected.
- Limitations of the current system.
- Feasibility;
  
  ♦ Operational feasibility.
  ♦ Schedule feasibility.
  ♦ Technical feasibility.
  ♦ Economic feasibility.

Example:

After going through the investigative process, the following problems were discovered with the current manual system:

1. Revenue collection and monitoring are not effective.
2. The increasing number of residents in the council may overload the current system’s ability to process orders.
3. Unpaid taxes have increased from 3%, only one year ago, to 10%. Therefore, the current credit management system has to be improved.
4. Processing of customer’s receipts and invoices may not be done accurately and in time.
5. Customer’s orders, e.g., for sewer line connection are not done within the required time.
6. Data entry errors.
7. Production of reports takes time.
8. The overall operating cost is high.
9. Council’s data and information is insecure from unauthorized users or theft.
**Design**

Describe the development plan for the new system.

1. Show or draw a well illustrated and explained System flowchart, Table/file structure designs, Input designs and Output design for the computerized system.

   a). Identify the kind of tables to create, and what fields to use and their data types.

<table>
<thead>
<tr>
<th>Table</th>
<th>Fields</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Garbage collection</td>
<td>Code, Date, Plot number, Type of payment</td>
<td>GC001</td>
</tr>
<tr>
<td></td>
<td>Fee (Amount)</td>
<td>2/5/2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DAD1234</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monthly Rate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500.00</td>
</tr>
<tr>
<td>2 House Rent</td>
<td>Code, Date, Plot number, Type of residential house, Monthly rate</td>
<td>HR001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4/6/2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EEE000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Commercial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,000.00</td>
</tr>
<tr>
<td>3 Licensing of business</td>
<td>Code, Date, Plot number, Type of business, Annual rate</td>
<td>Hardware, Bar, Hotel</td>
</tr>
<tr>
<td>4 Market charges</td>
<td>Receipt number, Date, Issuing officer, Charge, Code</td>
<td>16-April-2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>567</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Car</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KAR 329 Q</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.00.00</td>
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<tr>
<td></td>
<td></td>
<td>12.30.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jeff</td>
</tr>
<tr>
<td>5 Parking fees</td>
<td>Date, Receipt number, Vehicle type, Vehicle number, Fee, Time In, Time Out, Name of attendant</td>
<td>16-April-2006</td>
</tr>
<tr>
<td></td>
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<td>567</td>
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<td></td>
<td></td>
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<tr>
<td></td>
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<td>12.00.00</td>
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<tr>
<td></td>
<td></td>
<td>12.30.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jeff</td>
</tr>
<tr>
<td>6 Residence</td>
<td>Plot number, Name of resident / business, Estate / business</td>
<td>AAA100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peter Adoyo</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rental house</td>
</tr>
<tr>
<td>7 Sewer services</td>
<td>Code, Date, Plot number, Payment type, Amount</td>
<td></td>
</tr>
</tbody>
</table>

   - Identify the Primary keys and foreign keys.
   - Field properties, e.g., formats, field sizes, validation rule and validation text, etc

b). Identify the layout/format of input, i.e., what type of forms to create.

c). Identify the format for output. The output should be in the form of Reports.

**Refer to:**

- Longhorn Computer Studies Form 3 page 105 – 126.
- Samples in Book 4 page 94 -126.
**Coding**

This is where you turn your designs into real programs using any of the computer programming languages.

1. Design your tables.
   - Include correct field names, set correct data types and format the field widths correctly.
   - Set primary keys for your tables.
   - Set validation rules and test whether the rules are able to work as required.
   - Create relationships where possible.

2. From the tables, create their respective data entry forms.
   - The forms should be created in Design view.
   - The form should have command buttons which when clicked will be able to execute the task, e.g., *Add Record, Save Record, Delete Record, Close form*.
   - Include Textboxes where possible.
   - Test to see whether any change made on the form is able to affect the respective table.

3. Create queries where possible (e.g., to calculate totals).
4. Generate reports.
5. Create a main switchboard.

**Testing**

Use of test data in your tables.

*Refer to:* Table 5.3 in Form 4 book, page 132.

**User manual**

A User manual is used to help a person use the system with little or no guidance.

The manual must contain information such as:

1. How to install, start and run the system.
2. How the system appears when running (interface).
3. How to carry out various tasks, e.g., data entry, data modification, deleting, etc.
4. A troubleshooting guide that describes error correction routines and how to get help when faced with problems.

Give a sample of:
   - Data input, e.g., table
   - Data output, e.g., form

*Refer to:* the sample user manual in Form 4 book, page 129 - 132.

**Recommendations**

- Give points suggesting what the Council should do in order to achieve the proposed objectives.
- Commend on the performance of the new system in relation to the old system.

*Refer to:* Team vision in Form 4 book, page 89 - 90.

**Conclusion**

What conclusions can you draw from the results you have presented?
- If the new system is implemented, do you think it will be of some benefit to the council?
- Can you identify any implications the new system may have on the council’s activities?
(give the advantages/benefits of the computerized system)

Example:
From the findings obtained in this study, it was found that the new system will contribute positively towards corporate objectives of the council when implemented. Its lifetime benefits greatly outweigh the costs.

I have therefore concluded that;
a). ........................................
b). ........................................, etc

Appendices
This contains materials which are relevant to arguments in the main text, but would spoil the flow of the text. Examples are; sample questionnaires, interview guides, test data or raw data from field work.

Note. Include only the material that is relevant to the bulk of your research and findings.

Refer to:
♦ Sample appendix in Form 4 book page 132.
♦ Fig. 4.3 (an interview guide) & Fig. 4.4 (a questionnaire) in Book 3 page 101 & 102.
♦ Fig. 5.1 (an interview guide & a questionnaire in Form 4 book page 92 & 93.

Bibliography / References
Bibliography shows a list of books and reference materials used in developing your project.


Refer to: the sample bibliography in Form 4 book, page 133.
REQUIREMENTS FOR THE PROJECT:

1. Each candidate should have access to:
   - A computer running Databases, Visual Basic, C++ or Pascal software.
   - A printer to produce drafts and the final printouts of the project work.
   - A diskette / CD to copy the entire finished project work. The diskette/CD should be handed together with the printouts to the Headteacher.

2. Students should keep a record of the activities they carried out and any other observations they made. These records will be used by the candidates to write their final report and should also be made available to the external assessors whenever required.

3. The project should be carried out during the months of March to September (7 months). The project report printouts and the diskette/CD should then be handed over to the Headteacher.

4. The Computer Studies Teacher should assess each candidate’s project using the Marking scheme and the Assessment card provided by KNEC. The total score of each candidate should then be transferred from the Assessment card to the Manual Mark sheet. The marks should be entered in an ascending order of Index numbers.

5. The external assessor will assess the projects in the first 2 weeks of October. The report printouts and the diskettes/CDs should be sent to KNEC through the DEO before the end of the 1st week of November.
# MARKING SCHEME

<table>
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<tr>
<th>ITEM</th>
<th>Maximum Marks</th>
<th>Marks Awarded</th>
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<tbody>
<tr>
<td>1 Title Page</td>
<td>3</td>
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</tr>
<tr>
<td>2 Table of Contents</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3 Report Structure</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>4 Acknowledgements or Dedication</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5 Introduction</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6 Analysis</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>7 Design:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a). System Flowcharts</td>
<td>4</td>
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<tr>
<td>(b). Table / File structure design</td>
<td>16</td>
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<td>(c). Input design</td>
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<td>(d). Output design</td>
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<tr>
<td>8 Demonstration</td>
<td>35</td>
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</tr>
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<td>9 User manual</td>
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<td>10 (a). Recommendations</td>
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<td>(b). Conclusion</td>
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<td>(c). Appendices</td>
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<td>(d). Bibliography</td>
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**TOTAL** 100