**[Group Name]**

**[Project Title]**

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[Abstract/brief summary:] The project presents a prototypical decision support system (DSS) for aiding potential homebuyers in finding the best home for their needs in Arlington County, VA.

# PROBLEM DEFINITION AND PROJECT OVERVIEW

Home-buying represents a significant part of both individual lives and the welfare of countries. [According to Statistica – IEEE citation?] the estimated revenue of the real estate industry in 2019 was $493.3 billion. The purchase, sale, and rental of homes accounts for a great deal of economic activity, as well as a significant life milestone in the lives of individual citizens. Numerous lifestyle publications refer to buying a first home as a major life event.

Ultimately, buying a home is a decision. On an individual level, this decision is significant to the homebuyer, who is the primary decision-maker in this context. It’s likely one of the biggest purchases in the decision-maker’s personal life, and one that will play a huge role in their life, providing them with shelter, amenities, a place to host guests, a place to enjoy fun activities, and a location in range of necessary public services such as schools and public transportation.

From an economic perspective, a high number of people are buying homes every year. These people face a decision difficult enough that they often bring in professionals to help them make it. According to the NAR website, there are roughly 2 million active real estate licensees in the United States [citation], an enormous niche within the job market built around matching homebuyers with homes. The demand from homebuyers for help with making this decision-making provides an opportunity for a beneficial decision support system around this problem.

This particular decision support system (DSS)

* Describe the decision problem and context within which you are building the DSS.
* What benefit could decision support provide? Who are the users/stakeholders?
* Who would be the users of the DSS? Who are the main stakeholders and what are the main tensions involved?
* Brief description of your project, including project scope, accomplishments, and evaluation results.

# THE SYSTEM DEVELOPMENT PROCESS

2.1 List of initial requirements (input, output, functional, maybe others).

2.2 Management plan:

* Who did what? What is your plan going forward toward full implementation? (summary, details in appendix)

2.3 Design Process:

* Describe the process you followed in designing, prototyping (and possibly building) your DSS.
* What difficulties did you encounter?
* If you implemented a prototype with limited functionality, describe your planned approach to developing a full-scale implementation.

# THE SYSTEM

* Describe the system you developed. If your system is up on the web, include a URL. If you have a demo that will run without third-party software, please include a CD or a URL for downloading.
* Describe your system architecture with a level of formality appropriate to your system and to your level of knowledge.

3.1The data component:

* What data does your system require?
* What are the sources of data?
* Are external sources involved? If so, describe the synchronization policy and requirements. How are data represented?
* Discuss compatibility issues. If you build a functioning prototype, describe what you did, including tradeoffs you had to make.

3.2 The model component:

* What models does your system use? Justify in terms of the problem the system needs to be solved. Discuss tradeoffs you had to make. (Again, describe what you did if you implemented; and explore the requirements if you did a storyboard.)
* Describe the weight elicitation process and the technique used (AHP, swing weights, etc.)
* How is incomplete data and other sources of uncertainty handled in your model?

3.3 The dialog component:

* Walk the user through the process of using the system.
* Refer to visuals included in appendix.

# SYSTEM EVALUATION

4.1 Overall evaluation plan

* Formative evaluation (in progress)
* Summative evaluation (future)
* Details of the formative evaluation (prototype and development process)

4.2 Preliminary evaluation results

* If your prototype includes only limited functionality, discuss your approach to evaluating a full-scale implementation.

# CONCLUSION

• Summary of your project. What did you learn? Do you still think your problem is a good candidate for decision support? What obstacles lie in the way of successful application of DSS to this problem? If you were going to continue this project after this semester, where would you go from here?

# APPENDICES

* Hardcopies of screens.
* Architecture diagrams (e.g., IDEF0; data flow; etc.)
* Management report – Includes list of tasks, primary person and other contributors to each task.

Bibliography

https://www.statista.com/study/15824/industry-report--real-estate/