

Technical proposal

Scrum Lords

Motivation

The goal of our system is to provide a simple process for betrothed couples to book for various marriage services like marriage notice, special license, property instrument and solemnization processes. These processes by law have to be done in person in front of various authorized personnel. The system also aims to provide these different authorized people (Marriage officers and solemnization officials like clergy) to use the system to help the betrothed register for whatever service they want.

We aimed to integrate it with data already available on the one gov platform like Omang Details and attributes like addresses and marital status. The integration will allow officials to easily identify the couples and witnesses. This process by law needs to be done in real time by officials. This means minimizing the time taken to do it is an aim. A system that allows officials to quickly verify the betrothed and witness eligibility, so they can perform the rights they need to is an aim.

Property Instrument registration is a fairly simple process that fits within the marriage process and looks similar to the marriage process in many ways. This includes the need for witness and physical presence. A similar process for its processing is required. Signed instruments to be valid, must be registered in the Deeds Register. Seeing that the future of citizen-government interaction like registration and publishing will be handled on the OneGov platform in the future. The platform should be able to store the data retrieved so the software systems at the Deeds Register can do database transfers or API calls to their databases.

Notice posting for each of the three systems is required. Finding a way for anyone in the public with an internet connection to logon to the system and quickly find any notices is desired. It is not common for people to periodically go to the marriage registry offices to find notices of marriage or to scour the government gazette for any change of name. A system that allows people to easily find information they may have heard from others (rumour) would be ideal. A discrete search of notices and posts on the internet by any curious person is desired.

The change of name process is not as legally involved (e.g. in person reading of rights not needed). It is also a shorter process that interacts with one other department for Gazette publishing. The system should be able to publish the change of name notice in the centralized, future OneGov notice board.

Solution Design and Architecture

The design process started with research efforts like visiting government offices (Figure 1) reading the laws governing the processes in question and talking to government officials and people who have used the services.

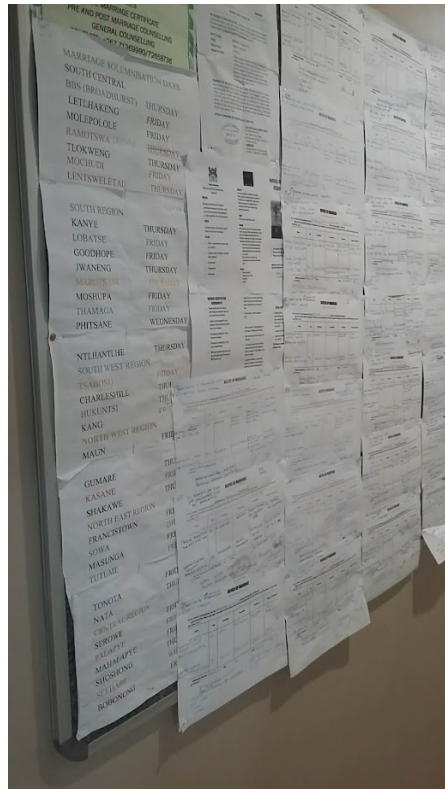
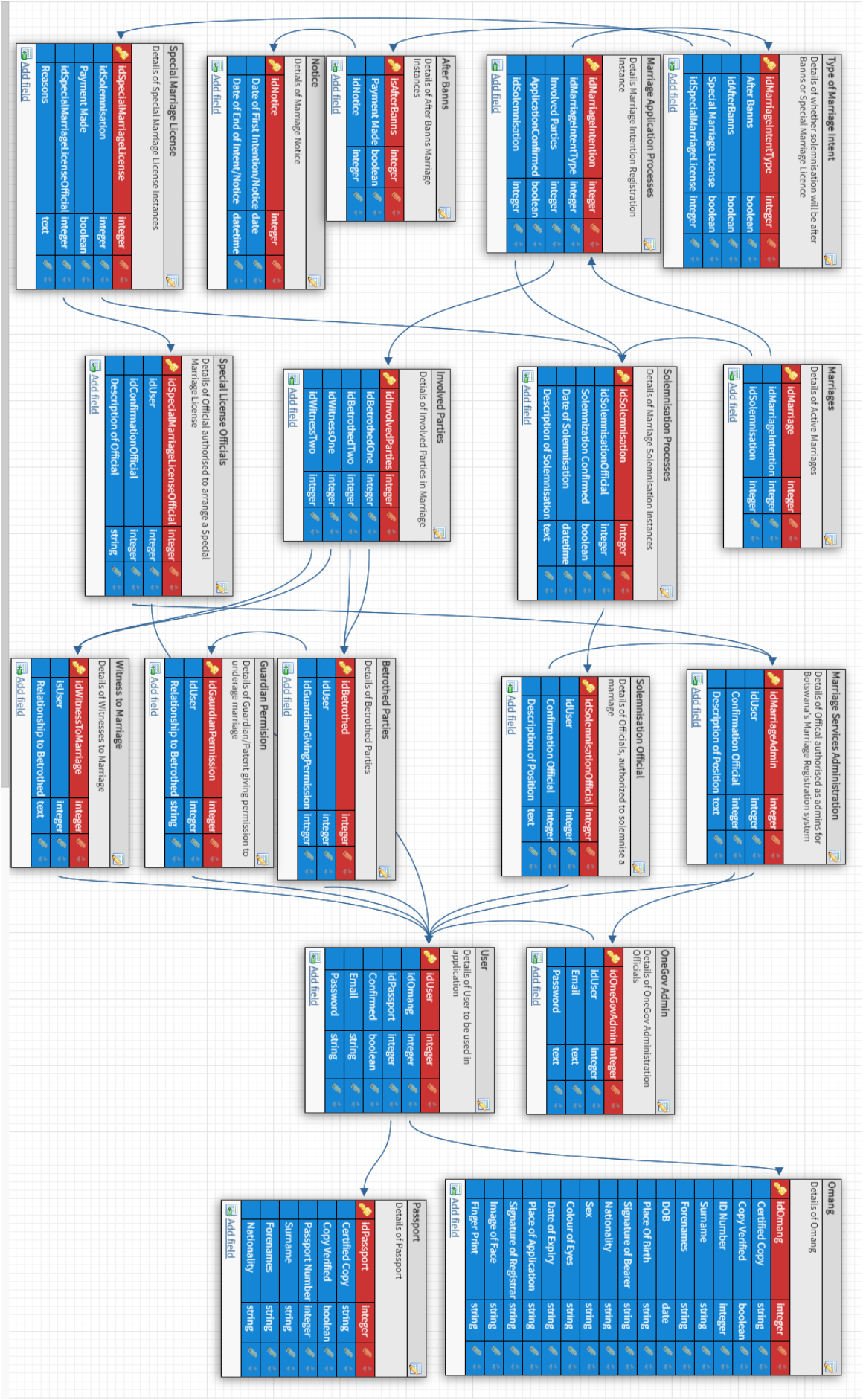


Figure 1: Current Notice System

After the process was understood the data flow structure was thought of. An Entity Relation Diagram was created (Figure 2). The assumption was made that our system is integrated with the omang system and a register of all foreigners registered on the OneGov (passport table). Using the third normal form (3NF) database schema design approach, we mapped out how the backend database would be built.

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For our front and backend we chose to use NextJS and its API creation capabilities. NextJS is a superset of the popular ReactJS front-end framework written in Javascript. React (the most used web framework in the world) and Javascript's (a compulsory tool in web development) popularity ensures that future contracts for maintenance won't cost as much due to lack of knowledgeable developers in the future.

The Databases use will probably be decided on by what is available on government servers or on any choice of other open source databases. For this project we made fake databases and fake entries of people registered on the OneGov platform. These take the form lists of javascript objects.

The design flow desired for Marriage Registration, which is a similar process (who was to be there, what field needs to be filled) to solemnization and property instrument registration is shown in the diagrams below.



Figure 3: Step One - OneGov Home Screen

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Department of Civil and National Registration



Figure 4: Step Two - Department Home Screen

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Hello {name}, Ready to Register a Marriage?

Watch the help video playlist to the left for the different details and process involved in Registering a marriage in Botswana or Skip if you want

SKIP >

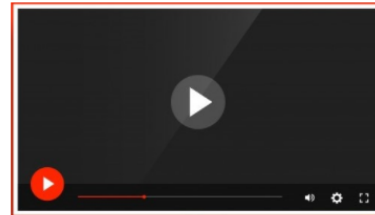


Figure 5: Step Three - Marriage Process Information Page

Marriage Registration: Step One

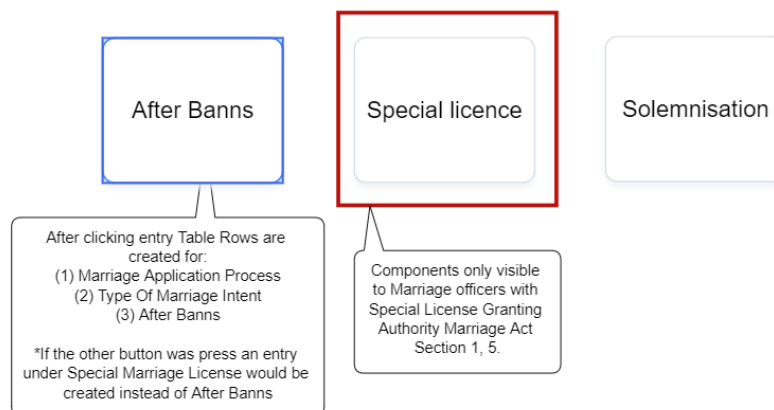


Figure 6: Marriage Process

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The other two features are similar and would have similar forms.

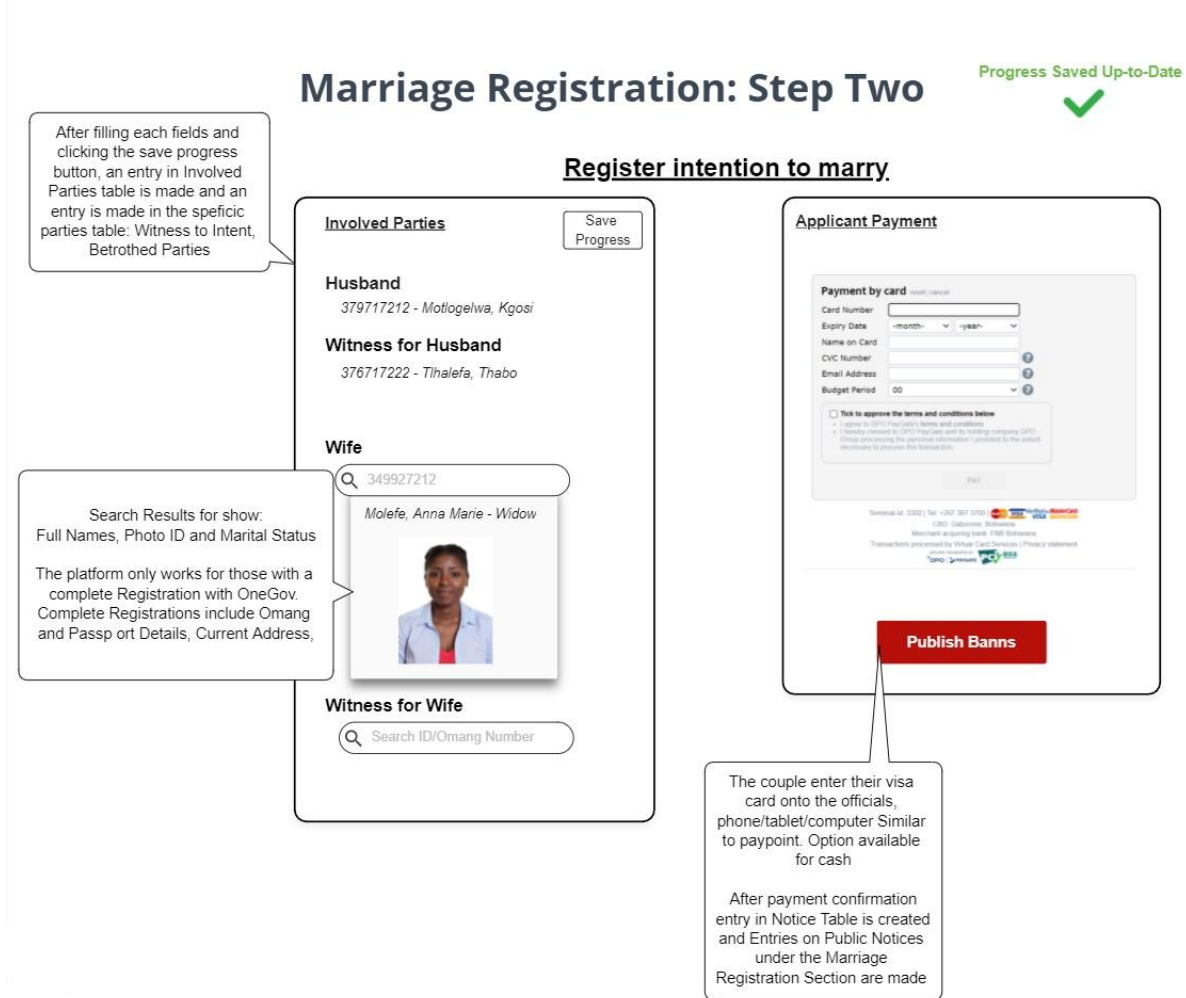


Figure 7: Final Step Marriage Notice

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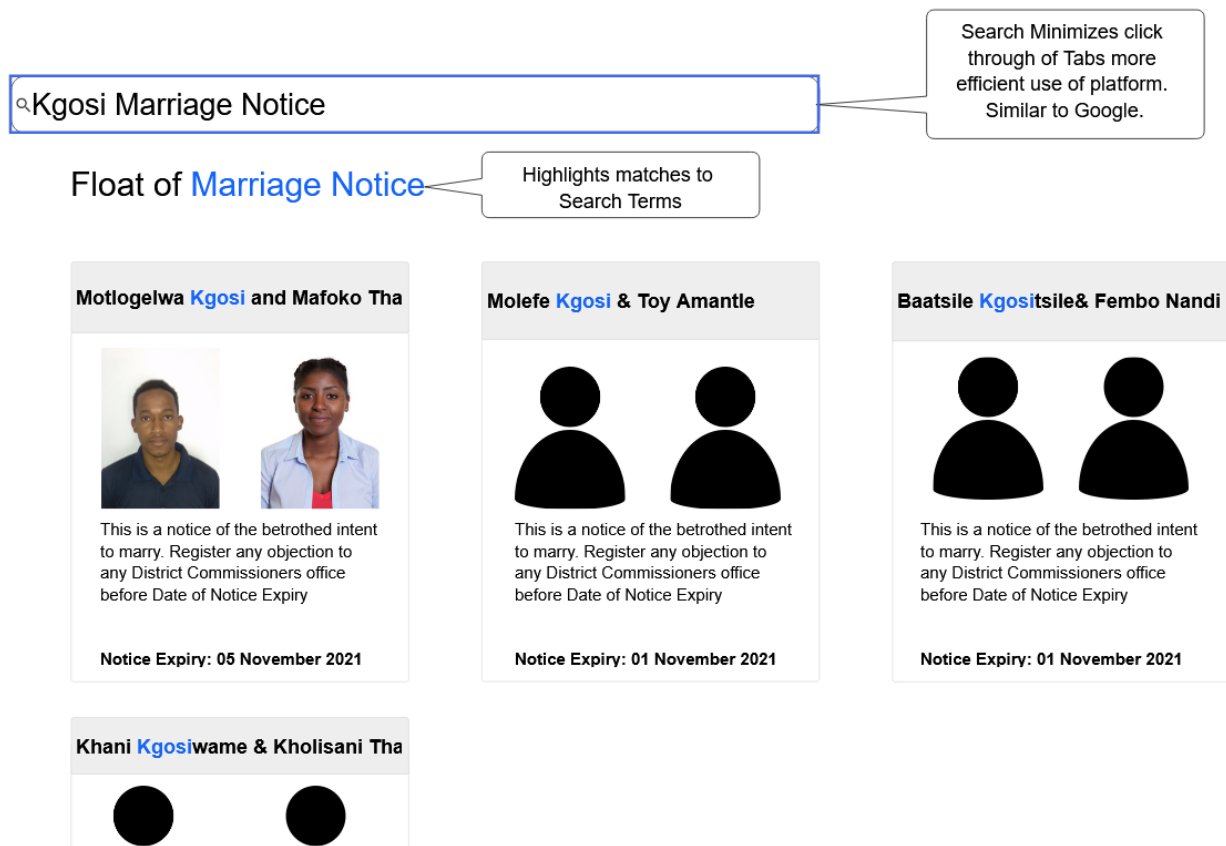


Figure 8: Government Notice System

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Lessons Learnt

- Significant research design and conceptualization needs to be done before the competition opening date. The systems in question and the attached legislation is extensive. There are a lot of permutations the system would have to take into account.
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