**BSc Project Screening Form: Guidelines**

**Part 1 – Project Proposal**

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| **Degree Pathway** | Bsc. (hons.) Computer Science and Software Engineering | |
| **Supervisor Name** | Ajay Kumar Sharma | |
| **Course Coordinator name** | Ajay Kumar Sharma | |
| **Title of Project** | Kishaan | |
| **Abstract of the project** | Agriculture is the backbone for Nepal’s economy. There is a great potential of agriculture business in the country with the development of technologies. However the agricultural practices has not changed with time. We are still doing the labor intensive farming in which work load and production cost is high but production is low. This is because most of the farmers of the country are illiterate and are not able to connect directly with experts to get proper guidance in their farm.  To overcome the barrier between farmers and experts, Kishaan will bring a solution. The project will be initially started with the research part. The research will be done using two methods qualitative and quantitative. In quantitative research online survey, online polls and one to one interview will be taken for certain group of farmers, experts and the organizations who are interested in broadcasting their programs. During qualitative research case study will be performed targeting certain experts who are currently providing services to the farmers. This is done to understand the current scenario of agriculture, farmers and experts. Moreover it will also help to understand the broadcasting services in the country. To integrate those broadcasting services in the application we need an API’s. From the research it will be more easier to understand whether to write an API’s by ourselves or there is an existing API’s that they provide.  Kishaan will be designed with the motive to connect farmers with experts in both online and on field basis. Moreover it will provide valid information to those who are engaged in agriculture by broadcasting TV shows, radio events and other special events related to agriculture. Kishaan will be a mobile application develop by using latest technologies like flutter, firebase etc.  Keywords: Agriculture in Nepal, Agriculture Experts, Broadcasting, Commercialization | |
| **Project deliverables** | * Report * Fully functioning mobile application * Poster | |
| **Description of your artefact** | Nepal is an agricultural country contributing 24.26% in national GDP from agriculture and about 63% of people engaged in agriculture (Prasain, 2021). In the recent years agricultural practices has been uplifting with time. With the evolution of smart phones, people are surfing internet for getting valid information and understanding modern technologies that can add value to their farm. According to Nepal Telecommunication Authority, there are more than 38.21 million mobile phone users (Balami, 2021). Out of them 87.19% have access to internet(RSS, 2021). So the technologies advancement has bought a great opportunity in the agricultural sector. It’s time to reduce a labor intensive farming and practice modern methods by adapting technologies.  There are existing applications like Hamro Krishi, Smart Krishi, Krishi Guru who are involved in providing services to the farmers. Out of them Krishi Guru is a better choice for farmers with different services available but it’s only an android app and the information is not updated regularly. For broadcasting there is a Krishi TV mobile application which hosts agriculture related TV programs. They only broadcast their own Tv programs. But there is no any online platform in Nepal through which farmers can directly communicate with the experts. For now farmers used to communicate with experts through direct phone call or social media platforms.  Some of the major agricultural constraints in Nepal includes:   * Lack of information services * Lack of farm managerial skills * Lack of knowledge * Obsolete and inefficient technology   There are many governmental, non-governmental, international non-governmental organizations and private organizations working to overcome the challenges in the country. Then, there might be the question like; if those big bodies are not able to uplift the condition, then how will Kishaan?. The goal of Kishaan is not to be an exceptional. It will just follow their principles and encourage them to perform those offline task in online basis. Kishaan will be more focused in spreading valid information and providing support to promote commercialization of farming by solving the major agricultural constraints. There will be both free and premium services with in the system. The broadcast information will be available to everyone for free of cost. But to meet the experts and get both online and on-field support, users have to pay certain amount (which will be affordable to everyone). They can meet experts one to one or they can request on-field support.  Aim   * To build a platform to connect farmers with experts.   Objectives   * To build platform for agriculture experts for providing both online and on-field support. * To provide valid information to the farmers. * To aware farmers for adapting modern method of agriculture. * To build broadcasting platform for organizations to host agricultural related TV/FM programs and other awareness programs.   Features   * Organizations, experts and user registration * Premium service packages * Event broadcasting * Event hosting * Expert meet up room * Simple and clean user interface   Values:  After the completion of project, the system will solve a communication gaps between farmers and experts. Those who are researching in the agriculture can get a proper documentation on condition of farmers and experts in the country with internet penetration and it’s adaptation. They can also get to know about broadcasting systems and about different agricultural related information providers in the country.  Challenges:  There might encounter multiple challenges while doing a project. The appropriate research data related to those who are involved in agriculture in Nepal may not be found in the internet. The condition of farmers and experts can be found only by meeting them personally. There are many resources in the internet that are providing the information. But are all the information valid?. So providing a valid information is a challenging task for Kishaan. Moreover, integrating TV/FM programs within the application can be a major challenge. Furthermore, building an industry ready application with full documentation in just 4 months of time is a difficult task. | |
| **What methodology (structured process) will you be following to realise your artefact?** | **Research methodologies**  Quantitative and qualitative research methodologies will be used through out the research process. Quantitative research will be used to collect information about farmers, experts and broadcasting companies. The process will involve interview, online polls and online surveys. Case study will be performed during qualitative research.  **Development Methodology**  Agile software development methodology will be used to develop the application. This method will be used because the requirements may change with time. The project management process will go through:   * Requirement analysis (understanding application feature requirements through research outcome ) * Design (prototyping using Balsomiq and designing system using visual paradigm) * Development(coding using dart and flutter) * Testing (unit, integrated) * Deployment (releasing app on google play, app store)   **Evaluation Plan**  The project may need to be redefined with time. So, the agile methodology will be used. Initially qualitative and quantitative research approach will ensure the appropriate data collection. The goal of the evaluation is to produce an artifact as quickly as possible. | |
| **How does your project relate to your degree course and build upon the units/knowledge you have studied/acquired** | From a very first day of the course, we learn various software development tools and techniques. Moreover we get to know about research methodologies, development strategies, real world application life cycle, business needs and many more. From learning a basic concept of programming language to building a real world demo applications, we get to learn a lot of technologies. Software engineering is not only about understanding the technologies but understanding the real world problems and finding its solution using technology. The technologies that we have learned from this course best suits for developing a real world practical applications and the methodologies will help us to understand the real world problem scenario. Moreover those methodologies not only helps to understand the problem but also helps to solve them technically. So, the project will be developed using various techniques that we have learned in this course. Designing techniques from simple photo editing to building user interactive prototypes. Using development techniques like mobile app development, API integration, third party logins, etc. And some of the research techniques like quantitative, qualitative, descriptive, analytical etc. | |
| **Resources** | Hardware   * Computer having min 8 gb of RAM and 240gb of SSD.   Software   * Android Studio / Visual Studio Code * Android/IOS emulator   Designing   * Visual paradigm * Balsomiq prototyping   Development   * Dart * Flutter * Firebase * Agora video calling API/SDK * Agora broadcasting API/SDK   Platform   * Android/ IOS mobile | |
| **Have you completed & submitted your ethics form?** | **YES** | NO |
| **If the project is a development of previous work by yourself or others, give details below. Failing to declare such previous work here may be treated as an academic offence** | | |

**Supervisor Signature:**

**Course Coordinator Signature**

**After the proposal has been signed off by both the supervisor and course coordinator scan the proposal and upload on BREO with signatures. Projects that follow proposals that have not been approved may be cancelled and there will be no compensation for any time lost**

**Part 2 – List of relevant resources**

*Fill in this section after your project proposal has been approved by your supervisor. Use Harvard referencing (see* [*https://lrweb.beds.ac.uk/a-guide-to-referencing*](https://lrweb.beds.ac.uk/a-guide-to-referencing) *). Modify the list below as appropriate. This list is part of Assignment 1 and will be submitted with the Project Proposal.*

1. *Books*

*The future of agriculture by Wendy B. Murphy*

# *Sustainable Agriculture: Principles And Practices* *1st Edition by John Williams Borrow(Author)*

1. *Journal Papers*

GC R K and Hall R P 2020 The Commercialization of Smallholder Farming—A Case Study from the Rural Western Middle Hills of Nepal *Agriculture* 10 143 Online: http://dx.doi.org/10.3390/agriculture10050143

1. *Web Sites with relevant information*

The Kathmandu Post. 2021. Nepal wants to be an agriculture-driven economy but future of the sector is in crisis. [ONLINE] Available at: <https://kathmandupost.com/money/2021/06/29/nepal-wants-to-be-an-agriculture-driven-economy-but-future-of-the-sector-is-in-crisis>. [Accessed 13 October 2021].

The Himalayan Times. 2021. 87.19 percent -population-has-access-to-internet: Nepal Telecommunication Authority. [ONLINE] Available at: <https://thehimalayantimes.com/nepal/8719pc-population-has-access-to-internet>. [Accessed 27 October 2021].

Balami, M., 2021. Number of Mobile Phone Users Exceeds Total Population of Nepal. [Blog] Available at: <https://www.newbusinessage.com/Articles/view/13101> [Accessed 27 October 2021].

1. *Relevant software*
   1. *Krishi TV*
   2. *Farm Journal TV*