**MIT School of Computing**

**LY Project phase-1**

**Guide: Prof. Shahin Makubhai Group – 07**

**Annexure-**

**Selected Problem:**

**Early detection of cancer in patients from lab reports using machine learning.**

**Design Thinking – Empathy**

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| --- | --- |
| * **Who are we empathising with:**   + - Hospitals     - Data analysists     - Scientists     - Medical companies | * **What are we empathising:** * Machine trained with different datasets * Different classifiers are used |
| * How: * Machine learning * Classifiers like:   + *Logistic*   + *Decision*   + *XG Boost* | * **Why:** * To detect cancer as earlier as possible * To know the level and type of cancer * To minimize the deaths causing due to cancer |

**Problem Statement:**

Hospitals, data analysts, pharmaceutical companies, scientists are constantly researching on cancer and its patients who needs to analyze the causing symptoms and symptoms in different stages, detection rate, type and level of cancer and overall surveys related to it because cancer is a type of disease that can not be completely eradicated and can only be minimized hence early detection bsecomes very much necessary. **Annexure-**

**Ideation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Requirement** | **Proposed Solution** | |
| **1.** |  | | |
|  | Available Solutions- | Proposed Solution- | |
| **2.** |  | | |
|  | Available Solutions- | | Proposed Solution- |
| **3.** |  | | |
|  | Available Solutions- | | Proposed Solution- |

**Solution-**

**The team will define the final solution here from the above table.**

**Scope-**

**A team with a guide will understand and define the scope of the proposed solution. As per scope they can take decision on dividing across semesters or years.**

**Annexure-**

**Selected Problem:**

**Farmers are not stable in farming and family life.**

**Design Thinking – Empathy**

By field Survey, asking questions, interviews to user/ client, team will discuss and do Empathy mapping. The team has to prepare questionnaire for above activity and keep records. Attach all proofs to this document.

|  |  |
| --- | --- |
| **Farmer Says:**   * I don’t know weather prediction * I should know market prices * I should know crop planning * High cost of pesticides and seeds * Interrupted power supply | **Farmer Thinks:**   * Good quality yield but no market * Someone should help me to us. * Proper weather forecasting is needed to take decision. * Assurance on market prices |
| **What User Does**   * Follows traditional methods * Follows which other do * Taking loans for investing * Using resources as per availability | **What Farmer Feels**   * Investing money (by loan) and hard work with no guarantee of returns * Can not make future plans for farm and family * Dependent on government rules, weather and market condition * Farmer life is crucial |

**Problem Statement:**

A farmer **is a** backbone of nation for raising food or raw need of human being, **who needs** technical support to overcome traditional planning for crop, unpredictable weather and market conditions and awareness of government policies **because** they are not having guaranteed returns due to which they are failing to plan good life.

**Annexure-**

**Ideation**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Requirements** | **Proposed Solution** |
| **1.** | **Crop Plannings** | |
|  | Available Solutions-   * Krushi Kendra * Experienced farmers in villages | Proposed Solution-   * A system to integrate inputs from kurshi kendra, experienced farmers, regional and national level decisions. |
| **2.** | Weather Prediction | |
|  | Available Solutions-   * Previous experiences * Forecasting department (TV, media, etc) * Yearly seasons | Proposed Solution-   * A system integrating real time weather report |
| **3.** | Approachable Market | |
|  | Available Solutions-   * Vendors in villages * APMC | Proposed Solution-   * A system for vendors and farmers which can directly communicate. * Farmer can know current business values also |
| **4.** | Support for Loan | |
|  | Available Solutions-   * Patpedhi * Personal Loans (High risk) | Proposed Solution-   * A system integrating all banks, government agencies and government facilities to farmer |
| **5.** | Resource Management | |
|  | Available Solutions-   * As per availability * Searching for sharing or lease basis | Proposed Solution-   * A platform which will show availability of resources in villages, lease, exchange facility, etc. |

**Solution-**

Our system will help farmers to register and help them to plan crops, share resources, avail loans, vendor and market facility along with weather prediction.

**Scope-**

This solution has five modules to integrate. By considering the logic and technology engagements and its mapping with time limit and available skill sets, we are dividing this application in two years (i.e. four semester).

1. Crop planning and weather forecasting
2. Market analysis and approach
3. Loan and government schemes integration
4. Resource plannings
5. Integration of all modules