**SYNOPSIS**

**Report on**

**ANTI PESTO**

|  |  |
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| **by** |  |
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**ABSTRACT**

In order to solve the problems of many kinds of crops diseases and pests, fast diffusion speed, and long time of manual identification of diseases and pests, a crop disease and pest identification model based on PHP database connector which gives all information on all pests ,manually.

Firstly, crop images are show on user page to collect information set, and Data about all insects and crops are shown on web application. The experimental analysis of the proposed model based on the constructed data set shows that the average recognition accuracy and recognition time of fragrant pear diseases and insect pests are 96.6% and 321ms, respectively.

The system's show all information about pests and insects, even they search about different insects and pests on different crops then application show all information about crops and what insects and pests harms their crops.

In summary, our web application, given all information about that related to that search of insects and crops**.** All we can see their KISAN don’t judge new insects and pests and evenly they are suffer from stress, when pests harms their all crops and not make an profit for leaving then KISAN to push herself and take a step towards a SUICIDE. our web application to overcome this and helps a KISAN.

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**Introduction**

Agriculture is an important basic industry worldwide, and pests can cause huge losses to crop production in every country. According to research, nearly half of global crop production will be impacted to varying degrees due to pests every year, which seriously affects the regional economy and people’s daily lives. Pest identification and given solution has become an important task for the development of agriculture precision because pests have a wide distribution, cause great damage, and reproduce quickly.

In order to solve the problems of many kinds of crops diseases and pests, fast diffusion speed, and long time of manual identification of diseases and pests, a crop disease and pest identification model based on PHP database connector which gives all information on all pests ,manually.

Firstly, crop images are show on user page to collect information set, and Data about all insects and crops are shown on web application. The experimental analysis of the proposed model based on the constructed data set shows that the average recognition accuracy and recognition time of fragrant pear diseases and insect pests are 96.6% and 321ms, respectively.

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**Literature Review**

We investigated a collection of ten and more categoried of insects pests (mainly affecting tea plants), which are: Locusta migratoria, Parasa lepida, Euproctis pseudoconspersa Strand, Empoasca flavescens, Spodoptera exigua, Chrysochus chinensis, larva of laspeyresia pomonella, etc

For Dr. Tiago Hori, director of aquaculture innovation at Atlantic Aqua Farms, the challenge of bringing targeted genotyping by sequencing (GBS) into aquaculture was making sequencing technology economically feasible. The solution that Dr. Hori found was the AgriSeq platform, and it is working wonders for Atlantic Aqua Farms.

Aaron Larsen, Chief Science Officer with United Bio Research, Inc. explained recently why he has been using Applied Biosystems AgriSeq targeted genotyping-by-sequencing (GBS) workflows in conjunction with the Thermo Fisher Scientific GeneStudio system to develop customized solutions for cattle breeders.

With soybeans representing a large fraction of global agriculture, any advance in yield, disease resistance, tolerance to changing environmental conditions or other traits stands to help feed millions upon millions of people, both directly and through refined products such as soybean oil. Dr. Gaspar Malone is GDM’s manager of biotechnology research, and has recently incorporated Thermo Fisher Scientific’s AgriSeq genotyping-by-sequencing solution into GDM Seeds’s development process.

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**Project Objective**

The primary objective of our project is to design, develop, and implement a Database and show all related information to pests and crops and solutions, This system aims to help Farmers by providing them with a pests and insects information related to various crops and solution to overcome. Specifically, our project seeks to achieve the following key objectives:

* **Customization and Personalization**: To enable users to download their Pests images, all information related to pests and that solution. 

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* **Comprehensive Feedback Mechanism:** To incorporate a robust feedback mechanism that generates detailed feedback reports based on the user's responses. These reports will assess various faced by the farmers, problems and overcome the problems. The feedback will provide actionable insights to guide users in identifying their problem and tell the process of overcome this (solution).

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**Research Methodology**

The research methodology for our project, which involves the web development of a Database and using PHP to connect the database.

**1. Research Design:**

Experimental Development: This research employs an experimental development approach to design, develop, and implement the Database connect with Front-end. The project involves iterative phases of design, coding, testing, and refinement.

**2. User Management:**

Here we manage our users data of their name, email, address, phone number etc with their email as username and password of her/his logins username and password.

**3. Admin Panel:**

Their admin will manage all data and edit information, update etc, where admin see all data where users ask them (query) etc. Their manage admins id and password.

**4. Technology Stack:**

Front-end Development: The system's user interface is developed using HTML and CSS, providing an interactive and user-friendly experience.

Back-end Development: The system's user interface is developed using PHP.

Database: The system's user interface is developed using MYSQL, providing an interactive and user-friendly experience.

**5. Crop Management:**

Their module is for manage crops with their variety’s, name, information about that crops.

**6. Pests and Disease Management:**

Their module is for manage pests with their crops variety’s, pests name, information about that pests and their solutions, Medicine etc.

**7. Government Schemes:**

Add information about government schemes with their issue date and information about this and also link also provided. Where is all information added with their forms in admin panels and send to database and collect data from database to show on users panels.

**8. Forms and Queries:**

Their given query form to ask any query and issues with related to website and others.

And one forms is given, even their new pests is found and users don’t match with that insects then it send information all related to that insects. Then it taking as a higher priority and send emails with all information to Agriculture Research Institute.

**9. Development Phases:**

Phase 1: Requirements Gathering: In this phase, we identify user requirements, including customization options and desired features.

Phase 2: System Design: We design the system architecture, database structure, and user interfaces based on gathered requirements.

Phase 3: Development: Development includes front-end development using HTML and CSS, back-end development using PHP.

Phase 4: Testing: Rigorous testing is conducted to ensure system functionality.

**Project Outcome**

Certainly, here are the expected technical outcomes of the Database collection related to pests, crops and solutions:

**1. Functional Web development:**

The primary technical outcome of this project is the development.

**2. User-Friendly Front-End and Back-End Interface:**

The system will feature a user-friendly front-end interface developed using HTML and CSS. This interface will allow users to easily navigate their problem of pests and cops, making it accessible their solutions.

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**Proposed time duration**

|  |  |  |
| --- | --- | --- |
| **Week Number** |  | **Tasks** |
|  |  |  |
| **Week 1-2:** | 1. | Define project objectives and goals. |
| **Project Initiation and Planning** | 2. | Assemble the project team. |
|  | 3. | Establish communication and |
|  |  | collaboration tools. |
|  | 4. | Identify user requirements and |
|  |  | technical specifications. |
|  |  |  |
| **Week 3-4:** | 1. | Develop the system architecture. |
| **System Design and Front-end Development** | 2. | Design the database structure. |
|  | 3. | Build the user interface using HTML |
|  |  | and CSS. |
|  |  |  |
| **Week 5-6:** | 1. | Integrate databse connection via |
| **Back-end and Database** |  | PHP. |
|  | 2. | Ensure seamless data flow between |
|  |  | the front-end and back-end. |
|  | 3. | Create a databse of. All pests and |
|  |  | insects |
|  |  |  |
| **Week 7-8:** | 1. | Conduct thorough system testing. |
| **Testing, Refinement, and Deployment** | 2. | Gather initial user feedback. |
|  | 3. | Identify and address issues and bugs. |
|  | 4. | Continue testing and refinement based |
|  |  | on user feedback. |
|  | 5. | Finalize the project codebase and |
|  |  | configurations. |
|  | 6. | Prepare a presentation and |
|  |  | demonstration for the project's final |
|  |  | submission. |
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**REFERENCES**

1. Yao, Q.; Chen, G.T.; Wang, Z.; Zhang, C.; Yang, B.J.; Tang, J. Automated detection and identification of white-backed planthoppers in paddy fields using image processing. *J. Integr. Agric.* **2017**, *16*, 1547–1557. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Automated+detection+and+identification+of+white-backed+planthoppers+in+paddy+fields+using+image+processing&author=Yao,+Q.&author=Chen,+G.T.&author=Wang,+Z.&author=Zhang,+C.&author=Yang,+B.J.&author=Tang,+J.&publication_year=2017&journal=J.+Integr.+Agric.&volume=16&pages=1547%E2%80%931557&doi=10.1016/S2095-3119(16)61497-1)]
2. Feng, H.Q.; Yao, Q. Automatic identification and monitoring technologies of agricultural pest insects. *Plant Prot.* **2018**, *44*, 127–133. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Automatic+identification+and+monitoring+technologies+of+agricultural+pest+insects&author=Feng,+H.Q.&author=Yao,+Q.&publication_year=2018&journal=Plant+Prot.&volume=44&pages=127%E2%80%93133)]
3. Li, W.Y.; Li, M.; Chen, M.X.; Qian, J.P.; Sun, C.H.; Du, S.F. Feature extraction and classification method of multi-pose pests using machine vision. *Trans. Chin. Soc. Agric. Eng.* **2014**, *30*, 154–162. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Feature+extraction+and+classification+method+of+multi-pose+pests+using+machine+vision&author=Li,+W.Y.&author=Li,+M.&author=Chen,+M.X.&author=Qian,+J.P.&author=Sun,+C.H.&author=Du,+S.F.&publication_year=2014&journal=Trans.+Chin.+Soc.+Agric.+Eng.&volume=30&pages=154%E2%80%93162)]
4. Chen, M.X.; Yang, X.T.; Shi, B.C.; Li, W.Y.; Du, X.W.; Li, M.; Sun, C.H. Research progress and prospect of technologies for automatic identifying and counting of pests. *J. Environ. Entomol.* **2015**, *37*, 176–183. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Research+progress+and+prospect+of+technologies+for+automatic+identifying+and+counting+of+pests&author=Chen,+M.X.&author=Yang,+X.T.&author=Shi,+B.C.&author=Li,+W.Y.&author=Du,+X.W.&author=Li,+M.&author=Sun,+C.H.&publication_year=2015&journal=J.+Environ.+Entomol.&volume=37&pages=176%E2%80%93183)]
5. Tian, R.; Chen, M.X.; Dong, D.M.; Li, W.Y.; Jiao, L.Z.; Wang, Y.Z.; Li, M.; Sun, C.H.; Yang, X.T. Identification and counting method of orchard pests based on fusion method of infrared sensor and machine vision. *Trans. Chin. Soc. Agric. Eng.* **2016**, *32*, 195–201. [[**Google**](https://scholar.google.com/scholar_lookup?title=Identification+and+counting+method+of+orchard+pests+based+on+fusion+method+of+infrared+sensor+and+machine+vision&author=Tian,+R.&author=Chen,+M.X.&author=Dong,+D.M.&author=Li,+W.Y.&author=Jiao,+L.Z.&author=Wang,+Y.Z.&author=Li,+M.&author=Sun,+C.H.&author=Yang,+X.T.&publication_year=2016&journal=Trans.+Chin.+Soc.+Agric.+Eng.&volume=32&pages=195%E2%80%93201)[**Scholar**](https://scholar.google.com/scholar_lookup?title=Identification+and+counting+method+of+orchard+pests+based+on+fusion+method+of+infrared+sensor+and+machine+vision&author=Tian,+R.&author=Chen,+M.X.&author=Dong,+D.M.&author=Li,+W.Y.&author=Jiao,+L.Z.&author=Wang,+Y.Z.&author=Li,+M.&author=Sun,+C.H.&author=Yang,+X.T.&publication_year=2016&journal=Trans.+Chin.+Soc.+Agric.+Eng.&volume=32&pages=195%E2%80%93201)]
6. He, H.M.; Liu, L.N.; Munir, S.; Bashir, N.H.; Wang, Y.; Yang, J.; Li, C.Y. Crop diversity and pest management in sustainable agriculture. *J. Integr. Agric.***2019**, *18*, 1945–1952. [[**Google**](https://scholar.google.com/scholar_lookup?title=Crop+diversity+and+pest+management+in+sustainable+agriculture&author=He,+H.M.&author=Liu,+L.N.&author=Munir,+S.&author=Bashir,+N.H.&author=Wang,+Y.&author=Yang,+J.&author=Li,+C.Y.&publication_year=2019&journal=J.+Integr.+Agric.&volume=18&pages=1945%E2%80%931952&doi=10.1016/S2095-3119(19)62689-4)[**Scholar**](https://scholar.google.com/scholar_lookup?title=Crop+diversity+and+pest+management+in+sustainable+agriculture&author=He,+H.M.&author=Liu,+L.N.&author=Munir,+S.&author=Bashir,+N.H.&author=Wang,+Y.&author=Yang,+J.&author=Li,+C.Y.&publication_year=2019&journal=J.+Integr.+Agric.&volume=18&pages=1945%E2%80%931952&doi=10.1016/S2095-3119(19)62689-4)]
7. Dong, W.; Qian, R.; Zhang, J.; Zhang, L.P.; Chen, H.B.; Zhang, M.; Zhu, J.B.; Bu, Y.Q. Vegetable lepidopteran pest auto recognition and detection counting based on deep learning. *J. Agric. Sci. Technol.* **2019**, *21*, 76–84. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Vegetable+lepidopteran+pest+auto+recognition+and+detection+counting+based+on+deep+learning&author=Dong,+W.&author=Qian,+R.&author=Zhang,+J.&author=Zhang,+L.P.&author=Chen,+H.B.&author=Zhang,+M.&author=Zhu,+J.B.&author=Bu,+Y.Q.&publication_year=2019&journal=J.+Agric.+Sci.+Technol.&volume=21&pages=76%E2%80%9384)]
8. Lyu, Z.W.; Jin, H.F.; Zhen, T.; Sun, F.Y. Application development of image processing technologies in grain pests identification. *J. Henan Univ. Technol. (Nat. Sci. Ed.)* **2021**, *42*, 128–137. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Application+development+of+image+processing+technologies+in+grain+pests+identification&author=Lyu,+Z.W.&author=Jin,+H.F.&author=Zhen,+T.&author=Sun,+F.Y.&publication_year=2021&journal=J.+Henan+Univ.+Technol.+(Nat.+Sci.+Ed.)&volume=42&pages=128%E2%80%93137)]
9. Lu, S.H.; Ye, S.J. Using an image segmentation and support vector machine method for identifying two locust species and instars. *J. Integr. Agric.* **2020**, *19*, 1301–1313. [[**Google**](https://scholar.google.com/scholar_lookup?title=Using+an+image+segmentation+and+support+vector+machine+method+for+identifying+two+locust+species+and+instars&author=Lu,+S.H.&author=Ye,+S.J.&publication_year=2020&journal=J.+Integr.+Agric.&volume=19&pages=1301%E2%80%931313&doi=10.1016/S2095-3119(19)62865-0)[**Scholar**](https://scholar.google.com/scholar_lookup?title=Using+an+image+segmentation+and+support+vector+machine+method+for+identifying+two+locust+species+and+instars&author=Lu,+S.H.&author=Ye,+S.J.&publication_year=2020&journal=J.+Integr.+Agric.&volume=19&pages=1301%E2%80%931313&doi=10.1016/S2095-3119(19)62865-0)] [[**CrossRef**](https://doi.org/10.1016/S2095-3119(19)62865-0)]
10. Zhang, G.C.; Zhang, D.X.; Li, B.L.; Sun, Y.G. Present situation and prospects of storage pests based on vision inspection technology. *J. Chin. Cereals Oils Assoc.* **2014**, *29*, 124–128. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Present+situation+and+prospects+of+storage+pests+based+on+vision+inspection+technology&author=Zhang,+G.C.&author=Zhang,+D.X.&author=Li,+B.L.&author=Sun,+Y.G.&publication_year=2014&journal=J.+Chin.+Cereals+Oils+Assoc.&volume=29&pages=124%E2%80%93128)]
11. Zhang, W.F.; Guo, M. Stored grain insect image segmentation method based on graph cuts. *Sci. Technol. Eng.* **2010**, *10*, 1661–1664. [[**Google Scholar**](https://scholar.google.com/scholar_lookup?title=Stored+grain+insect+image+segmentation+method+based+on+graph+cuts&author=Zhang,+W.F.&author=Guo,+M.&publication_year=2010&journal=Sci.+Technol.+Eng.&volume=10&pages=1661%E2%80%931664)]

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