



Research Note

Web Based Information System for Value Added Fish Products (CIFTFISHPRO)

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CIFTFISHPRO is a web based information system for value added fish products to support small or medium scale entrepreneurs for better utilization of fishery resources. The system provides information on series of value added fish products, ingredients required for the product and stepwise method of preparation of the product. The system also helps the users to automatically quantify the ingredients required while up-scaling the product and also the approximate cost of production. CIFTFISHPRO has a home page with a link on series of fish products and up-scaling page for each product with a hyperlink. The home page of CIFTFISHPRO was designed and developed using hypertext markup language (HTML), hypertext preprocessor (PHP) and Cascading style sheets (CSS). The algorithm for up-scaling the product was developed by using HTML and Javascript. CIFTFISHPRO is a web based, open and easily accessible software from any arbitrary platforms through internet. The system would help entrepreneurs or stakeholder to plan, design and execute the development of value added fish products.

Keywords: Value added fish products, ingredients, method of preparation, up-scaling of product, information system

Dissemination of technologies to the end user is an integral part of any research and development organization. ICAR-Central institute of fisheries technology (ICAR-CIFT) has developed or optimized various value added fish and fishery prod-

ucts for better utilization of fishery resources (Balachandran, 2001). These technologies are intended to support the livelihood of fishers and are being transferred to the stakeholders through teaching, training and agribusiness incubation programmes. As a part of this, the know how about technologies are normally disseminated in the form learning materials. But the stakeholders would like to get the information on their fingertips through different digital platforms. In the era of digitalization and online web based applications, it would be appropriate to develop user friendly applications for the dissemination of technologies to the stakeholder. Information system is one such useful digital platforms which can be used for technology dissemination and education.

Selvaganapathy & Krishnan (2015) emphasized that development of value added fish products is a very good livelihood and entrepreneurship option for the economically weaker sections of the society. This would also improve nutritional status of the society as fish contains good amount of protein (Venugopal & Shahidi, 1995). Entrepreneurs try to educate themselves on the development of value added fish products through training from research institutes. CIFT offers training on value addition of fish products to entrepreneurs and also provides different forms of information materials. But, entrepreneurs wish to have readily available material in the digital form to enhance their acquired knowledge, which would help them to plan and execute their product development programme. Keeping this in view, an information system on ICAR-CIFT value added fish products has been developed to disseminate the technologies to the entrepreneurs and also to help them to utilize the resources optimally.

This paper describes the development of information system on ICAR-CIFT value added fish

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products (CIFTFISHPRO). The software provides information on a series of value added fish products with product description and ingredients required for the product and method of preparation. The software also automatically quantifies the ingredient requirement when up-scaling the product. This software would be useful to small or medium scale entrepreneurs involved in the development of value added fish and fishery products to learn about product development and to assess approximate cost of the product when up-scaling.

The software mainly contains three pages *viz.*, home, value added fish products and up-scaling. The home page gives introduction about CIFT value added fish products and list of fish products. The home page has been designed using Hypertext markup language (HTML), Cascading style sheets (CSS) and Bootstrap for responsive pages (Powel, 2017). Hypertext preprocessor (PHP) was used to develop a contact form in the home page (Holzner, 2007). The input data management for up-scaling the fish product has been developed by Javascript and HTML (Yehuda & Tomer, 1998). The architecture of CIFTFISHPRO is given in Fig. 1. The programming languages used for the development of web based software were PHP and Javascript.

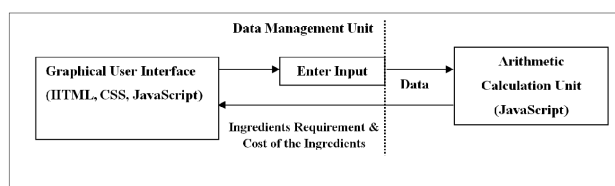


Fig. 1. Architecture of CIFTFISHPRO

Waterfall model was followed to develop CIFTFISHPRO as most of requirements were understood in advance. The software development mainly contained two modules *viz.*, value added fish products and up-scaling. We identified the list of value added fish products, gathered information on ingredients required for the product and method of preparation. The hierarchical design structure chart of the software is shown in Fig. 2.

CIFTFISHPRO is an interactive software with simple and easy navigation to access the contents and it is available at <http://ciftfishpro.cift.res.in/index.php>. The home page contains links to value added fish products and a contact form with the option ask expert@cift (Fig. 3).

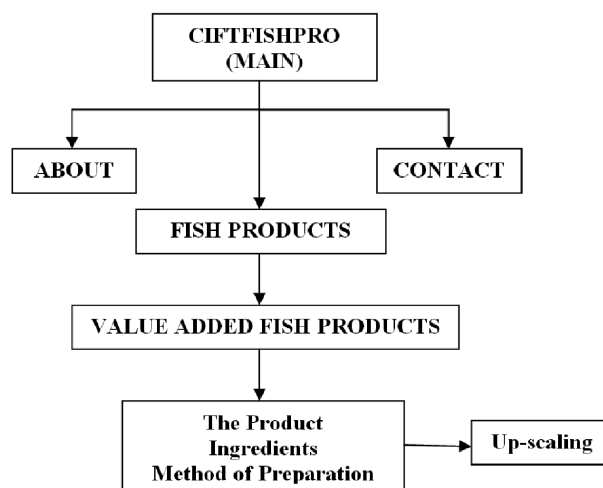


Fig. 2. Design of CIFTFISHPRO



Fig. 3. Home page of CIFTFISHPRO

The system provides information on series of fish products *viz.*, coated fish products like fish cutlets, fish fingers, fish burger, fish balls etc.; marinated products like fish and prawn pickles; extruded products like fish kure and noodles; wrapped fish products like fish momos, fish kebabs, fish samosa and fish rolls; cured products like dried fish and prawn and other products like fish sausage and prawn chutney powder. The list of value added fish products is given in Fig. 4.

Each product gives information about ingredients required, stepwise method of preparation and a hyperlink for up-scaling the product. For example, on clicking FISH CUTLETS it gives the information about fish cutlet, ingredients required for fish cutlet, stepwise procedure for cutlet preparation and a hyperlink on up-scaling of the product (Fig. 5).

Another important feature of CIFTFISHPRO is that it helps the user to automatically quantify ingredi-

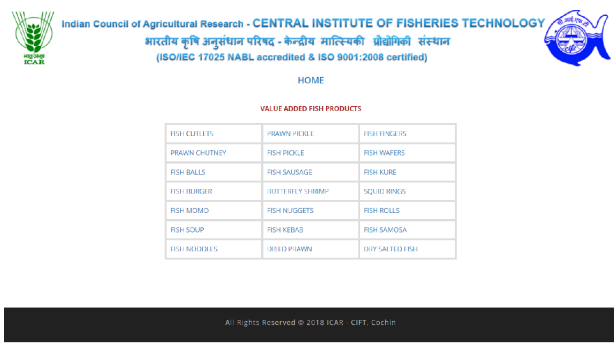


Fig. 4. List of value added fish products



Fig. 5. Value added fish product description in CIFTFISHPRO

ents required for each product when up-scaling the production of the product. The user has to enter the quantity of raw fish in kilogram and the system automatically calculates the required ingredients. The user can also give cost (in Indian Rupees) for each ingredient, as input, to have an idea about approximate cost of the product while up-scaling it. The algorithm for up-scaling the product has been developed using JavaScript codes. The basic input for different variables in up-scaling algorithm was taken from the ingredients table of each product. The up-scaling page for fish cutlets is given in Fig. 6. The functions and variables defined for weight and cost calculation are given in Fig. 7 and 8, respectively. This would help the entrepreneur to plan the activities of production process by procuring the required ingredients and other resources at optimum cost.

A web based information system on CIFT value added fish products (CIFTFISHPRO) has been developed to disseminate the technologies to the entrepreneurs / stakeholders. The software provides information on value added fish products with ingredients required and stepwise method of

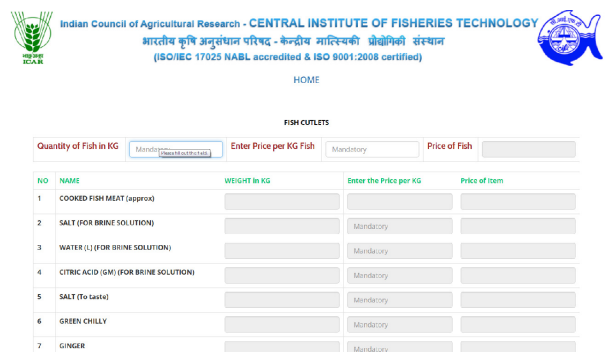


Fig. 6. Up-scaling page of fish cutlets

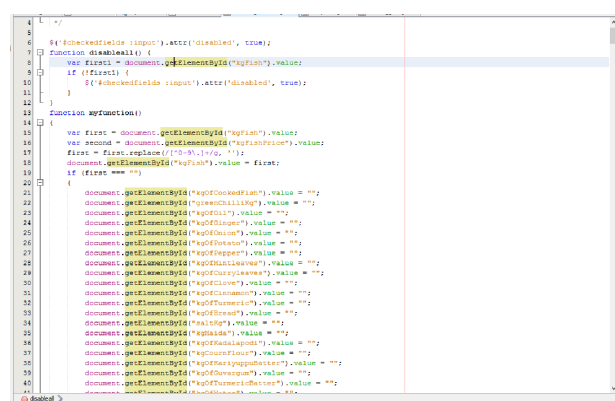


Fig. 7. Functions and variables defined for weight calculation



Fig. 8. Functions and variables defined for cost calculation

preparation and options fee information for upscaling.

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