CS251 SOFTWARE ENGINEERING 1

[MAINSTREAM PROGRAMME +

MEDICAL INFORMATICS PROGRAMME]

COURSE PROJECT INSTRUCTIONS SPRING 2025

Instructions to Students:

This is a group work project. Each group consists of **[3 to 4 students** *for the* **Medical Informatics Programme** *and* **5 to 6 students** *for the* **Mainstream Programme]**. The TA(s) must approve the group members through registration. Each group must develop the idea assigned to them using **Object-Oriented Technologies** & PHP. *Please note that every idea (from the provided list) can be assigned to a limited number of teams*.

Project Objectives: The objectives of this project can be summarized in the following:

- Eliciting, Analysing, Validating, Specifying, & Managing the Software Requirements.
- Using Software Engineering Processes and approaches, & UML diagrams in developing *(both designing & implementing)* an Object-Oriented-based application.
- Applying design & architectural patterns.
- Testing.

Submission: Submission is done according to the following schedule:

- **Week 06:** Registering your team.
- **Week 08:** Ideas Assigned to the teams.
- **Week 12:** Discussion *(detailed schedule TBA later)*.

Assessment: Assessment will include reports, code submitted, and discussions with team members. All the team members must contribute to all the phases, and the role of each member must be clearly stated in each report. The Project will be assessed based on the following criteria:

- The number of functionalities your project covers (determines the complexity of your project).
- The quality of your documentation.
- The correctness of your analysis and design diagrams.
- Design Quality: using patterns, levels of abstractions, etc.
- Implementation correctness.

Feedback: The teaching assistants will provide feedback for each group during the submission of each phase. Further details could be provided during office hours with the teaching assistants.

Academic Integrity: You can only submit your work. Any student suspected of plagiarism will be subject to the procedures set out by the Faculty *(including failing the course entirely)*. Helwan University's policies on academic integrity will be enforced on students who violate University standards of academic integrity. Examples of behaviour that is not allowed are:

- Copying all or part of someone else's work and submitting it as your own;
- Giving another student in the class a copy of your work,
- Copying parts from the internet, textbooks, etc.
- If you have any questions concerning what is allowed, please don't hesitate to discuss them with me.

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COURSE PROJECTS' DESCRIPTIONS (18 IDEAS)

Contents

Important Notes [Read Carefully]

1) The descriptions are indicative and not final, thus you need to do your refinements to these requirements, by adding your assumptions and constraints. You should rely on an existing application that performs functional requirements similar to the ones you're developing. For many of the ideas, I've indicated an application that you might model something similar to.
2) Some of the ideas are well defined and detailed while others are NOT. For those ideas that are not fully detailed, you need to elaborate more and explain in detail how things are working.
3) Finally, feel free to discuss your refinements with your TAs during the labs.
4) In case one (or more) of the functionalities within the application requires an advanced algorithm, just simulate that function using a very basic algorithm.
5) In the design phase, you're expected to design at least 6 functions per team member (that is, a team of 5 members should include at least 30 functions, while a team of 6 members should include at least 36).
6) In the implementation phase, you're expected to implement at least 4 functions per team member (that is, a team of 5 members should implement at least 20 functions, while a team of 6 members should implement at least 24).

N.B. We understand that you might positively refer to AI tools to support your research. Please note that, in case there are any concerns about AI-generated submission content, you will be invited for an opportunity to verify and defend your work.

1) A Digital Newsstand [Example(s): https://egy.voxcinemas.com/ & https://www.nytimes.com/]

The Digital newsstand features the world's most popular newspapers & magazines. Users can enjoy news stories and articles from their favorite sources and discover new ones worldwide. Users can download complete issues and toggle between the original print view and a web-optimized text view. Plus, bring it all to life with listening mode, one-touch translation, and dynamic commenting. In addition, users can subscribe to Premium to get unlimited access to every newspaper and magazine in the catalog or read single titles via single issue purchase or single title subscription.

The web app supports (but is not limited to) the following:

- Newspapers and magazines translated into up to 16 different languages.
- Newspapers and magazines are clustered into various categories (business, tech., arts, breaking news, etc.).
- Users can search/discover articles (or have articles & reports recommended) based on language, journalist/writer, topic, category, keywords, etc.
- Various subscription plans.
- The user may manage subscriptions, and auto-renewal may be turned on/off.

The web app also includes features such as:

- Wake up with The Morning, your a.m. guide to what's happening and why it matters. It's the news you need to start your day.
- Live Briefings bring you moment-by-moment updates on developing stories from experts in the field.
- "For You" is a space for discovery where you can relax with articles, games, and guides based on your interests.
- Save your favorites to read later on any device.
- Absorb the facts fast and experience stories in new ways with innovative graphics and data visualizations.
- Keep up with the latest news at a glance with the NYT widget. You'll get the latest headlines right on your screen.
- Enjoy a little escape with our Mini Crossword, Spelling Bee, and puzzles throughout the day. Save your game and return to finish whenever convenient.
- Keep your friends and colleagues informed with the ability to share articles, photos, and videos on your favorite social platforms.

2) A Loyalty Program Web App [Example(s): https://www.sharerewards.com/en & https://waffarha.com/en]

The web app offers various loyalty program options that both users and merchants can select from:

- Tiered loyalty programs that separate benefits into different levels (e.g., silver, gold, and platinum), with more rewards offered to customers in higher program tiers.
- Subscription-based loyalty programs require customers to pay an upfront, monthly, or yearly fee to join.
- Value-based loyalty programs don't offer any explicit rewards to customers (like discounts or other benefits) but instead emphasize the organization's/merchant's values and, ideally, align with customers' values. For example, with this program, an organization pledges to donate a portion of its proceeds to one or more charities, enabling customers to choose the charity that best aligns with their values. In addition, organizations that use value-based loyalty programs aim to facilitate deeper connections with customers.
- Points-based programs reward customers with points for each purchase, making them popular in retail environments like restaurants. When customers reach a certain number of points, they can cash those points in to get a product or receive a discount.

The programs support multiple categories of services (for example):

- All stores and restaurants in entire shopping malls.
- Cinemas.
- Entertainment venues.
- Carrefour.
- Hotel Chains
- Hotel Restaurants across certain cities (Cairo, for instance).
- Specific brands (LEGO, Crate & Barrel, Lululemon, etc.).

3) An Online Art Gallery [Example(s): https://www.saatchiart.com/]

This web app helps users discover, buy, and sell art online. It's never been easier for art lovers to find, preview, and purchase original works and for artists to share their work with a global audience. The features include (but aren't limited to):

- Users can browse a curated selection of original paintings, photography, sculpture, drawings, and collage by artist, title, and keyword or use sophisticated filters to target the works they're looking for.
- When users are ready to buy, they can pay quickly using their credit cards in various currencies.
- Users can see new curator-approved works in special collections released weekly.
- If a user wants to know how an artwork will look in their home before buying it? They can virtually "hang" art on their wall using the View In Your Room feature.
- If they are not sure where to begin? They may start with a blank wall, provide the app with approximate dimensions for the artwork they are looking for, and the app will give them personal recommendations suited to their unique space.
- Want to feature several artworks on a single wall? Experiment with a group of works to see what looks best. Take a screenshot and share your virtual gallery wall with friends and family.
- Users can request complimentary guidance from an art advisor to find artworks handpicked for them to purchase. Just complete a quick questionnaire, and one of our curators will get back to them within 4-5 days with their personalized recommendations.
- Users can buy eGift Cards for their family and friends.
- Artists can create online virtual galleries hosted by the app.
- Artists can register their Art Fairs and Galleries, and users can find an Art Fair next to them using the app.
- Users may refer a friend and get a discount per referral.

4) Instant Money Transfers and Bank-Accounts Access 24/7 [Example(s): https://www.instapay.eg/]

This web app allows users to transfer money to anyone instantly 24/7, to Self-onboard all their bank accounts at different banks, and to check the balance & mini statements for all their accounts.

- The app enables users to send and receive money instantly, 24x7, quickly, securely, and efficiently.
- User can onboard all their bank accounts & prepaid cards.
- Users can send & receive money using a mobile number or the Instant Payment Address (IPA) in seconds safely and securely.
- Users can send money to their friends and family from their accounts to any bank account, mobile wallet, or electronic card.
- The first step is to ensure that their mobile number is linked and registered to their account at their bank.
- The second step is ensuring a valid debit card for their bank accounts.
- To onboard prepaid cards, users can use the prepaid card number.
- Users can select their bank and follow the registration process from the app.
- The app provides a step-by-step registration guide and a list of supported banks.
- The app also features a Balance Inquiry and Mini-statement. Therefore, users can check their account balance (for each linked account) and view the last transactions on their linked accounts.

All transactions are done through the secured Instant Payment Network, and licensed banks handle all users' information and data under the Central Bank of Egypt Regulations.

5) A Museum Web App [Example(s): https://www.britishmuseum.org/]

The app sections include (but are not limited to):

- Visit; where a user can plan and book different types of visits.
- Exhibitions and Events; a guide for all exhibits and events, where users can book and manage their booking of a specific event. The app also recommends relevant events to the members.
- Collection; it includes online collections, galleries, and blogs. All of which can be browsed by Category, Topic, etc.
- Learn; Learning services for Schools, Young People, Communities, etc.
- Membership; Manages all aspects of memberships.
- The museum also includes a Library, an Archive, Study Rooms, Cafes, and Restaurants.

6) A Platform for Arranging Homestays and Cultural Exchange [Example(s): https://www.workaway.info/]

- The platform allows members to arrange homestays and cultural exchanges.
- The volunteers/travelers are expected to contribute a pre-agreed amount of time per day in exchange for lodging and food, which their host provides.
- Hosts register on the platform and are expected to provide information about themselves, the type of help they require to be performed, the accommodation they offer, and the sort of person they expect.
- The volunteers/travelers create an online profile, including personal details and any specific skills they might have. Afterward, they can contact hosts through the website and discuss a possible exchange.
- The platform is aimed at budget travelers and language learners looking to become more immersed in the country and culture they are journeying through while allowing local hosts to meet like-minded people who can provide the help they require. Thus, it is a helpful way to improve foreign language skills and an opportunity to develop new talents and learn about local traditions.
- The opportunities are varied and based in a wide range of countries worldwide. Some types of volunteering available include gardening, animal care, cooking, farming, and more specialist and niche help requests.
- One of the benefits for potentially isolated communities or people is the chance to bring the world to them via travelers using the site. Travelers can then profit from their host's knowledge of regional places of interest and their local environment.
- The platform may charge the travelers a yearly membership fee to connect to hosts but does not charge the host a fee to list.
- The duration of an exchange can range from as little as a few days to over a year.

7) A Gift-Economy / Gift-Culture App [Example(s): https://buynothingproject.org/]

A gift economy or gift culture is a system of exchange where valuables are not sold but given without an explicit agreement for immediate or future rewards. Although there is some expectation of reciprocity, gifts are not given in a direct exchange of goods or services for money or some other commodity or service (therefore, gift-economy contrasts with a market economy, where goods and services are primarily explicitly exchanged for value received).

- Thus, this platform offers people a way to give, receive, share, lend, borrow, and express gratitude through a hyper-local gift-economy model in which people can share wherever they are, and true wealth is measured by the web of connections formed between people through sharing.
- Once a user has joined their local group on the platform, they can post any items or services they want to give away for free — but nothing they are trying to sell.
- If a user sees someone else's post that they're giving away something the user is interested in, the user can comment on the post and hopefully start messaging with the poster about it.
- When it comes to how users will get or give the item away, that's up to them. Users can decide to meet up in a public location in their area, or they can choose to meet at one of their homes. Of course, meeting up with a stranger always comes at their own risk — all the platform does is connect two people on either end of a deal.
- To find a local group, a user can search the platform and the name of their town or neighborhood and see if a group comes up. Users can also go to the "Find a Group" page on the platform, where every official group worldwide is listed and hyperlinked.
- A group is usually hyper-localized to a town (or, if they live in a big city, a neighborhood), where locals can post items they want to give away or need — for free.
- Everything and anything! Furniture, clothes, food, compost, toys, garden tools, shoes, artwork, cleaning products — it's all fair game on the platform.
- Users can also give away or offer services, such as haircuts, yoga lessons, lawn mowing, etc. Whatever they would like to provide to their community!
- The platform groups all follow the same set of rules. The most notable rules include: Keep it legal; keep conversations civil and don't discriminate; don't message members unless they commented that users could message them; do not buy or sell; and be creative with what you ask for and give — instead of asking for money, see if anyone is giving away a good or service that could help you.
- If there isn't a group in a specific community, a user can fill out the Start-a-Group form. But first, they must read the related blog post and make sure they can commit to being an admin for that group, which involves volunteering to monitor the group's activity for 15-60 minutes daily.

8) Alumni Management Software for Our Faculty [Example(s): https://npoinfo.com/alumni-management/]

Alumni management is the process that universities and colleges use to connect and engage with alumni. Building meaningful relationships with alumni can drive success for any higher education program. Although most alumni move away from campus to pursue careers, they're still accessible and eager to engage with their previous educational institutions. When appropriately managed, alumni can become:

- Brand ambassadors for the educational institution.
- Recruiters for upcoming graduates.
- A significant source of revenue through donations and memberships.
- A source of expertise and mentorship for current students.

With the right software, a school can manage alumni in a single secure platform. The school can:

- **Keep an updated database.** Collect data on your alumni to determine demographics, communication preferences, engagement level, event attendance, and more.
- **Plan reunion events.** Alumni respond positively to events that reflect school spirit. Leverage nostalgia to attract more attendees.
- **Share campus news.** Share university updates, alumni spotlights, and upcoming events through a blog or newsletter. This will keep alumni invested in your school's progress.
- **Provide networking opportunities.** Include ways to find information about classmates or other alum to build a professional network.
- **Start a mentorship program.** An alumni mentor can provide career guidance and professional contacts to students. Keep in mind that younger alumni are more likely to mentor students due to a smaller age difference.
- By continually creating value for alumni, you encourage them to donate and participate in school-wide events.

Why is alumni management important?

Higher education programs have a critical task: making an impression on alumni. Alumni management ensures that you never lose access to alumni and can continue to engage with them long after graduation. With solid alumni management, your organization can:

- Share alumni data. Publish up-to-date statistics on alumni, including the companies they work for and their positions. This is a powerful way to improve credibility and recruit potential students.
- Build lifelong relationships. Loyalty is vital in this quickly changing, digitally connected world.
- Drive event attendance. Alumni events are excellent professional and personal development opportunities for former students. They can also offer real benefits to the organizing institution. From receptions and galas to reunions and career networking events, there is a multitude of ways to bring alumni together and boost engagement.
- Increase funds. When alumni are encouraged to donate, that money goes towards supporting the next generation of students. Use crowdfunding and matching gift programs to kickstart alumni donations.

An alumni management system is a software solution that allows you to manage all alumni data and activities in a single space. Most software offers various features created specifically for schools, universities, alumni associations, and foundations. Universities benefit from having all their information under one umbrella. Storing data across many systems can lead to information falling through the cracks. On the other hand, management software streamlines the process of gathering, storing, and updating data on alumni. It provides a comprehensive view of all alumni engagement efforts and gives new and improved insights into how to increase giving.

9) A Free knowledge-Market (Knowledge Exchange Platform) for CS & AI Students

[Example(s): https://ar.quora.com/ | https://stackoverflow.com/ | https://www.metafilter.com/]

A knowledge market is a mechanism for distributing knowledge resources. A free knowledge market model is based on treating knowledge as a public good, encouraging the free sharing of knowledge. Thus, a free knowledge market offers nothing more than an increase in reputation as payment for researchers.

- The platform should support the Arabic language (& English) and is mainly developed for Arabic Speaking Software Engineers & Developers, Computer & Data Scientists , AI & ML Engineers, etc.
- The platform is developed for users to ask and answer questions, and, through membership and active participation, to vote questions and answers up or down similar to Reddit and edit questions and answers in a fashion similar to a wiki.
- Users of the platform can earn reputation points and "badges"; for example, a person is awarded 10 reputation points for receiving an "up" vote on a question or an answer to a question, and can receive badges for their valued contributions, which represents a gamification of the traditional Q&A website.
- Users unlock new privileges with an increase in reputation like the ability to vote, comment, and even edit other people's posts.
- Tags can be assigned to questions / discussed topics.

10) A Charity Management Platform [Example(s): https://mersal-ngo.org/]

A charity management system is a software solution for a nonprofit organization. It manages the charitable donations and also the donor base. Such a system includes features such as electronic fund transfer, donation management, fundraising, donor management, and event management. There are certain key features that these systems offer to non-profit organizations:

- Easily track donations and donors.
- Send gift messages to donors.
- Monitor payment plans and cycles for donors.
- Set up recurring payment plans.
- Get detailed reports on their donations.

In simple terms, a charity management system refers to a specialised software application designed for organisations that raise funds and manage donors, majorly the non-profit sector in any industry. The system is such that it helps the organisation or non-profit to automate the process of donor relations, fundraising campaigns, and the overall financial aspect, which plays a crucial role. Moreover, report generation of the entirety of the organisation or non-profit is another excellent value addition.

There is an array of benefits for organisations and non-profits that select charity management systems:

Flexibility: The charity management system is designed to be flexible and user-friendly, allowing the organisations or non-profits to manage the entire operation in-house efficiently.

Time: The automation of the manual operation of managing several fund-raising campaigns, managing donors, and different types of financial management help save time for more critical focus areas.

Reports: The ability to generate reports of any type, especially the customisable reporting tools for progress on any aspect of the operation, is of great significance. This helps to keep the organisation on track of the progress and fund management.

Database: A great advantage of charity management systems is the creation of databases in a centralised location. Instead of creating different sheet after sheet in various places, both manual and digital, creating databases for storing information about volunteers, events, campaigns, pledges, trusts, and donors is an amazing benefit.

Screening: The system has a component that helps to track and predict when and how the donors give and extend to highlighting their giving or donation habits.

Efficiency: Improves efficiency by organising the campaigns and donations irrespective of the various platforms they have been obtained through – be it social media, email campaigns or organisation of events.

Key Features of a Charity Management System *(some of the most crucial features required for any organisation or non-profit’s (charity management system)*:

Communication: This is key given the operation’s nature; filtering donors, volunteers, peers based on various criteria allows ease of communication or personalisation, options for email marketing, and communication history of all contacts in the network. Keeping a track record of all communication is vital, along with different opportunities to create and connect.

Fundraising Tool: Ensure there are sufficient features in the fundraising tool that allows your organisation or non-profit to capture information briefly. Some of the key highlights that should be available in this tool include, but are not limited to, scheduling donations, forms and landing pages for contributions, ability to create teams and funds on your behalf, crowdfunding, registration for events and programs, wealth screening for estimates, and payment processes.

Donors: Donor management is significant for any organisation and non-profit. Therefore, tracking and collection of pledges, offering the privilege to donors to view and manage their history of donations, receipts, and recurring donations, ability to set tasks and reminders to maintain high profile or all donor relationships, tracking of all donor transactions, and the ability to create custom fields and tabs for the donations depending on the type of organisation or non-profit is a crucial feature to look out for.

Reports: Tracking and reporting is the key to running a successful organisation or non-profit for enabling a transparent operation from errors and frauds. Therefore, the ability to generate customised reports based on criteria of choice, scheduled reporting, donor management, analytics and contact reports, a dashboard for a quick snapshot of all interactions and insights of the operations, and a donor dashboard to understand the health of the non-profit given the in-flow of funds.

Integrations: Integration is vital across platforms of choice such as email marketing, accounting for better management, payment processing to collect donations, event registrations, including auctions for ticketing, etc., and lastly, fund-raising tools of choice for different charity programs and initiatives.

11) An On-Road Vehicle-Breakdown Assistance Application

This vehicle management application is a fully customized application where a company staff can view each customer order and give a solution to those vehicle’s problems. The locating system allows the user/admin to search for mechanics at different locations. The admin handles (and can access) the user’s details as well as the mechanic’s details. Mechanics are rated and can receive feedback on their services and costs. The admin has the access to allow, block, and view the mechanics. This online mechanic locator reduces a user’s work and can easily find the mechanics from various areas, thus saving time and cost. Thus, the system should comprise at least 3 major modules: an Administration Module, a Mechanic Module, and a User Module.

12) A Bug Tracking Application

This defect tracking application helps in tracking software bugs. There are three modules in this tracking system, Administrator, Staff, and Customer. The Administrator can log in to the app and can enter the details of staff members and projects, and view the bugs sent from the customers. The admin can also assign the work to (a) staff member(s), view a bug’s case-flow status & details, and send messages to customers using this bug tracking application. A staff member can log in to the site using a username and password. Then he/she can view the bugs assigned to them. (S)he can directly send a solution message to the customer(s), or he/she can assign the bugs to other staff members if the bug is related to them. The user may view a bug’s case-flow details with which he/she is involved. The customer registers on the application and logs in to the site using a username and password. Whenever a bug is raised from his/her software, (s)he sends the bug details to the administrator with a print screen of the bug. He/she may then monitor the bug case-flow details and bug status along with solution details at any time using the ticket number generated during the new bug entry.

13) A Local Train Ticketing & Railway Tracking and Arrival Time Prediction Application

A local train ticketing application is a system for local trains that allows users to book local train tickets and get ticket receipts online. This local train ticketing application provides login rights for normal users and admins. A normal user may log in and get a ticket online, print it, and travel by train. The ticketing process consists of a ticket booking form. The form allows the user to choose his/her source and destination. The source is the station from where the user will be boarding the train. The destination is the station (s)he needs to arrive at. The system's database should be filled with all available stations. It can be modified for any other city as needed. The system also consists of an option to select whether the ticket is for a single journey (one way) or a return ticket and whether the journey will be commenced in first-class or second-class carriages. It also consists of an admin account. The admin may recharge user account balance and check for various journey tickets processed within the system.

In addition, by using this application, users can get information about train timing; whether a train trip is on time or not, and any other relevant information. In this application, the system will track the train timing; that is, at what time the train departed from a particular station, and then pass on these timing details to another station's system where it will be displayed and used to update the expected time of arrival according to when actually did the train depart from the previous station. If the system found any delays in the train's schedule, it will automatically update the train arrival time at the next station and will update the viewers/users with this information. There is an admin module that enters the details about train trips and their timings/schedule, and these details will be passed on to a server and then fetched by the different systems at the other stations (and these systems will then display the information to the viewers on the platform). The system will also gather all the information of all the trains passing through (or arriving at / departing from) a particular station and will also display that information on a screen. An admin will enter details about a train's departure and its exact time. Other station masters in every station have a login whereby they may update a train's arrival time at their station when it does arrive (and also its exact departure time). The admins will add all information, such as when did a train depart from the station, its expected arrival at the destination, or any delays in the train's schedule, .. etc. This system also publishes real-time train schedule events to multiple clients subscribing to this service through their applications.

14) A Learning Management System Application including an Automated Teacher Evaluation Application

A Learning Management System (LMS) is an online system or software which is used to plan, execute, and assess a specific learning process. In simple words, the software used in eLearning programs that helps in the administration, documentation, tracking, and recording. Learning Management Systems are used to maintain online collaboration over the internet. Colleges and companies use them to deliver online training; corporates use them for training purposes, as well as for maintaining employee records. Some use them to offer courses that provide students access to education, and some others as an online system that staff use to support course delivery and provide online learning and blended learning opportunities for students and employees. The main objective of Learning Management Systems is to enhance the learning process. A Learning Management System not only delivers content, but also handles registering courses, course administration, skill gap analysis, tracking, and reporting. Most LMSs are web-based and are used in various educational institutes and companies to improve classroom teaching, learning methodology, and company records. They are used in various industries and scenarios like in financial services, compliance training, computer-based training, online assessment, collaborative learning, application sharing, and so on. Some LMSs also include a performance management system that encompasses employee appraisal, competency management, and skill gap analysis. Some common features found in the majority of Learning Management Systems include (1) Managing users, courses, roles, and generating reports. (2) Making a course calendar. (3) Messaging, notifications, and Reminders. (4) Exams and Assessments that can handle pre/post-testing. (5) Certification and displaying employees' score(s) and transcript(s). In addition to Multilingual interfaces, Groups, Learning Paths, etc.

In addition, the system includes a teaching performance evaluation, traditionally used as a tool to appraise the faculty on how they are doing their job. The automated teacher evaluation module allows rating of the faculty staff based on questions provided by the administration, and also the students can give their comments and feedback on that particular faculty member. In the admin side, the admin can add or delete a faculty member or a student. The admin can add the list of questions to decide the performance of the faculty member. Admins can also rate the faculty member according to a questions list and their performance. A faculty member can view their final ratings (based on the students, co-teachers, and admin ratings). The faculty members can also view any comment or feedback given by their students. Faculty members can rate their co-teachers based on questions provided by the administration. Teaching performance evaluation is a necessary step in ensuring good instruction. Thus, the the module should comprise at least 3 major parts: an Administration Module, a Student Module, and a Faculty Member Module.

15) A Professional Networking Application [inspired by LinkedIn]

This application is a professional networking online system. The user can use it to find the right job or internship, connect and strengthen professional relationships, and learn the skills (s)he needs to succeed in his/her career. A complete profile on this application can help the user connect with opportunities by showcasing his/her unique professional story through experience, skills, and education. The user can also use it to organize offline events, join groups, write articles, post photos and videos, and more. The application offers free, basic membership to anyone who wants to create and maintain a professional profile online. If the user upgrades to a Premium subscription, (s)he will gain further access to additional products and features that include marketing, recruitment, sales, and learning products. Other features in the application include (1) Hide the Connections, (2) Exporting the Connections, (3) Managing Skills & Endorsements, (4) Creating Showcase Pages, (5) Hiding one’s Identity when Viewing Profiles, (6) Saving Searches, (7) Adding Media Files to the Profile, (8) Recording the Correct Pronunciation of a User’s Name, and many more.

16) A Multilingual Open Online Encyclopedia [inspired by Wikipedia]

The application is a multilingual open online encyclopedia written and maintained by a community of volunteers through a model of open collaboration, using an editing system. Individual contributors, also called editors, use the application that allows them to create and collaboratively edit pages or entries via a web browser. The app also allows its users to bookmark articles and organize them into lists. Users can also share these lists across different devices. The lists can be sorted, searched, and reorganized offline. The app allows users to customize their Explore feed and choose the items they prefer to see in this section. The application provides users with the option to view their previously searched articles in History (which can save a lot of time in case they forget to bookmark what they were previously reading).

17) An Application that connects Driver-Partners and Riders [inspired by Uber]

This application helps develop and maintain multisided platforms that match consumers looking for rides and independent providers of ride services, as well as with other forms of transportation, including public transit, bikes, and scooters. The application also connects consumers and restaurants, grocers, and other merchants so they can buy and sell meals, groceries, and other items, then it matches them with independent delivery service providers. Plus, the application connects shippers and carriers in the freight industry. In cities where the application operates, the rider app is used to request a ride. When a nearby driver-partner accepts a request, the app displays an estimated time of arrival for the driver-partner heading to the pickup location. The app notifies the rider when the driver-partner is about to arrive. The app also provides info about the driver-partner with whom the rider will ride, including first name, vehicle type, and license plate number. This info helps the two sides connect at the pickup location. The app is used to enter the preferred destination anytime before or during the ride. If the rider has a preferred route, it's helpful to talk through the directions together. When the rider arrives at the destination and exits the vehicle, the trip ends. The fare is automatically calculated and charged to the payment method that has been linked to the rider’s account. In some cities, the app allows the rider to pay his/her fare in cash. This option must be selected before a ride is requested. Immediately after a trip ends, the application will ask the rider to rate the driver from 1 to 5 Stars. Driver-partners are also asked to rate riders. This feedback system is designed to foster a community of respect and accountability for everyone.

18) Medical Practice Management Software [Example(s): https://www.capterra.com/p/147369/IntakeQ-Online-Intake-Forms/]

Medical Practice Management Software (PMS), like IntakeQ, is basically a software system designed to streamline the day-to-day operations of a medical clinic or practice. It acts like a central hub for managing various administrative and financial tasks, allowing staff to focus more on patient care.

Here are some of the key functions of a Medical Practice Management Software:

- Patient Management: This includes storing and organizing patient demographics, medical history, allergies, medications, and other relevant information.
- Appointment Scheduling: PMS helps staff efficiently schedule appointments, send reminders to patients, and manage cancellations or rescheduling.
- Billing and Claims: The software automates tasks like generating bills, submitting claims to insurance companies, and tracking payments.
- Reporting: PMS can generate reports on various aspects of the practice, such as patient visits, revenue, and expenses. This helps with financial analysis and making informed business decisions.

Overall, a Medical Practice Management Software like IntakeQ helps improve the efficiency and productivity of a medical practice by automating tasks and centralizing data. This can lead to better patient care, improved cash flow, and increased profitability.

A PMS (Practice Management Software) must provide beautiful and secure electronic intake forms, ultimately leading to an amazing onboarding experience and a streamlined intake process:

- Modern and User-Friendly Design: Imagine forms that are clean, uncluttered, and visually appealing. This creates a positive first impression for patients and makes filling out the forms less daunting.
- Intuitive Layout: The forms should be easy to navigate, with clear instructions and logical flow. This minimizes confusion and ensures patients complete the forms accurately and efficiently.
- Mobile-Responsive Design: In today's world, patients expect to be able to access forms from their phones or tablets. The PMS should ensure the forms are optimized for mobile devices.

Secure Electronic Intake Forms:

- HIPAA Compliance: The PMS should ensure all patient data collected through the forms is secure and compliant with HIPAA regulations. This includes features like data encryption, access controls, and audit logs.
- Two-Factor Authentication: Adding an extra layer of security by requiring a one-time code in addition to a password can further protect sensitive patient information.
- Secure Data Storage: The PMS should use secure data centers to store patient data and implement measures to prevent unauthorized access.

- Streamlined Process: By offering pre-populated forms with information from previous visits or insurance companies, the PMS can significantly reduce the time it takes to complete the intake process.
- Personalized Touch: The forms can be customized to include welcome messages or information specific to the practice. This creates a more personal and welcoming experience for patients.
- Multiple Language Support: Catering to diverse patients by offering forms in multiple languages can remove language barriers and improve accessibility.
- Reduced Errors: Intuitive forms with clear instructions and validation checks can minimize data entry errors. This saves time for both patients and staff.
- Improved Efficiency: Electronic forms eliminate the need for paper forms and manual data entry. This allows staff to focus on interacting with patients and providing care.
- Faster Check-In: With pre-populated forms, patients can complete a significant portion of the intake process before arriving at the clinic, leading to faster check-in times.

In conclusion, beautiful and secure electronic intake forms are a valuable feature for a PMS. They contribute to a positive patient experience, improve efficiency, and allow for a smoother onboarding process, ultimately benefiting both patients and healthcare professionals.