

A personalized advisement mobile app suitable for group advisement

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Abstract - A holistic, developmental advisement tool, the Golden Eagle Flight Plan (or GEFP), was developed and piloted with the inaugural cohort of our College's new First-Year Experience (FYrE@ECST) as an online web version. GEFP-Online, while viewed by students as a useful advisement tool, is being underutilized. One of the advantages of the GEFP-online over other existing advisement practices in our College is GEFP-online provides students access to tracking of their own goals and milestones. It also provides them with convenient links to online resources. To encourage advisors and advisees to make use of what has been perceived as the potential benefits of the GEFP in improving advisement, mobile technology was leveraged to create a mobile version of the GEFP. Results indicating a discrepancy between the value of a tool such as the GEFP versus actual utilization of the tool are presented. The current implementation of the GEFP-mobile and a proposed use to encourage developmental advisement in a group advisement setting is presented.

Index Terms – developmental advising, online advising tools, mobile advising.

NEED FOR A NEW ADVISEMENT TOOL: GEFP-ONLINE

While developmental advising has demonstrated benefits for any student [1-3], the philosophy of holistic developmental advising is arguably even more well-suited for first-generation college freshman in an Engineering major degree program, for which they often come in often not meeting pre-requisites. This description well characterizes a majority of the incoming freshman in the College of Engineering, Computer Science, and Technology (ECST) at California State University, Los Angeles, an undergraduate and master's degree-granting, non-residential institution. First-time freshman retention rates have ranged from 70 to 84% over the recent decade. While it is relatively low compared to the national average, the bigger concern is that our 6-year graduation rate is still at 35%. It appears that our students could benefit greatly from more and wiser personalized guidance and more reflection on their own goals and progress towards those goals; i.e. from more focused developmental advising.

However, with increasing enrollment on top of an already heavy case load for our advisors, developmental advising seems to be becoming a more distant reality.

One way to compensate for this shortfall is to ask students to take more of their advisement into their own hands. We recognize the inherent value in having students engage more in the advising process by taking more responsibility for their own advisement. To encourage our students in a more holistic view of their college education and facilitate more engaging dialogue between the students and their advisors, an online holistic, developmental advisement tool was developed. The tool is called the Golden Eagle Flight Plan (GEFP), because Cal State LA's mascot is the golden eagle, and similar to a road map, the GEFP provides suggested milestones for students to target at each stage of their college career. However, unlike a road map, the flight plan gives a broader birds-eye view of their college experience, which includes not only the academic track and which courses to take, but also the career development and community engagement / leadership "runways" of their college career. The milestones are organized in a matrix*, similar to the one illustrated in Table 1.

	Academic Preparation	Career Development	Leadership, Community Engagement
Freshman (take-off)	✓ milestone ✓ milestone ✓ milestone	✓ milestone ✓ milestone □ milestone	□ milestone □ milestone ✓ milestone
Sophomore (climbing altitude)	✓ milestone ✓ milestone □ milestone	□ milestone □ milestone ✓ milestone	□ milestone ✓ milestone □ milestone
Junior (cruising altitude)	□ milestone □ milestone □ milestone	□ milestone □ milestone □ milestone	□ milestone □ milestone □ milestone
Senior (descent)	□ milestone □ milestone □ milestone	□ milestone □ milestone □ milestone	□ milestone □ milestone □ milestone
Graduation			

Table 1. Format of the Golden Eagle Flight Plan. Milestones are categorized by academic level, or flight stage, as well as by the different paths, or runways, that comprise the College experience.

GEFP-ONLINE UNDERUTILIZED

The GEFP was piloted as an online web version [4] with the inaugural cohort of our College's new First-Year Experience (FYrE@ECST). Before FYrE@ECST began in Summer 2015, students in ECST did not have a first-year experience per se. The goal of FYrE@ECST was to

create a more directed first-year experience which integrated multiple evidence-based practices to start building their identity as Engineering majors and strengthen their preparation for the rigorous Engineering curriculum in their road, or flight, as the case may be, ahead. FYrE@ECST consists of 5 components: 1) a math remediation summer bridge; 2) a redesigned Introduction to Engineering and Technology course which included a project requiring students to design the geometry of a remotely operated vehicle and then assemble it; 3) an inquiry-based lab called Mathemagics to encourage students to think more deeply about calculus concepts they are learning and start thinking about physics concepts they would be introduced to in their first-year curriculum; 4) peer-facilitated Supplemental Instruction (University of Missouri, Kansas City) workshops for Calculus and Physics; and 5) advisement using the Golden Eagle Flight Plan. The Fall term included all interventions, and majored on the new interventions of the new Intro to Engineering and Technology course as well as Mathemagics. The end-of-fall quarter results revealed a 39% higher pass rate in Calculus I than the propensity-matched control group, and a 29% difference even after correcting for instructor-dependent differences. By the end of the Winter quarter, 81% of the FYrE@ECST students had completed the Physics I degree requirement, whereas only 6% of the matched control group completed the Physics I degree requirement.

According to the end-of-1st-term survey, students appreciated the purpose of the GEFP and valued it as a student success development tool. However, it was not adopted by the professional advisors as an inherent part of their advisement process, and students were not adequately encouraged to utilize the tool on an ongoing basis (Table 2). This may be partly because of the heavy case load per advisor, especially with the growing enrollment on our campus. The new first-year experience program provides a great context to launch the GEFP advisement tool. The GEFP tool is expected to help carry forward the success FYrE@ECST has shown in supporting our first-years through their first-year curriculum, but obviously this cannot happen if advisors are not adopting it for use in their own advising practice.

	Advisors			Students		
	F '15	W '16	S '16	F '15	W '16	S '16
# users	3	3	0	16	7	1
# logins	4	4	0	19	20	1
avg. time	06:17	02:04	0:00	12:39	02:20	01:39

Table 2. Usage of GEFP-online since October 2015. Note that the use data logger was not implemented until halfway through the Fall quarter. Number of users accessing their GEFP, number of logins per term, and average time spent per login all decreased each quarter.

RATIONALE FOR THE GEFP MOBILE APP PLATFORM

The campus is moving toward a group advisement model, but of course, the apparent tradeoff is that students do not get the personalized attention they would get in one-on-one advisement sessions. One of the key advantages of the GEFP-online over other existing advisement practices is that students can access their own flight plan. This capability enables students to review their plan, gauge the overall balance they are striking between the three categories (academic, professional development, and leadership), and access direct hypertext links to online resources for a given milestone. They can even read comments made by their advisor or leave a comment / question for their advisor.

To use this tool in group advisement sessions, a mobile app version of the GEFP would be ideal. Each student can have easy access to their own flight plan and be monitoring their own goals, progress to degree, and achievement of milestones even while another student may be the focus of attention. Advisors can also give general guidance or instructions that each student then could carry out right then and there with their flight plans.

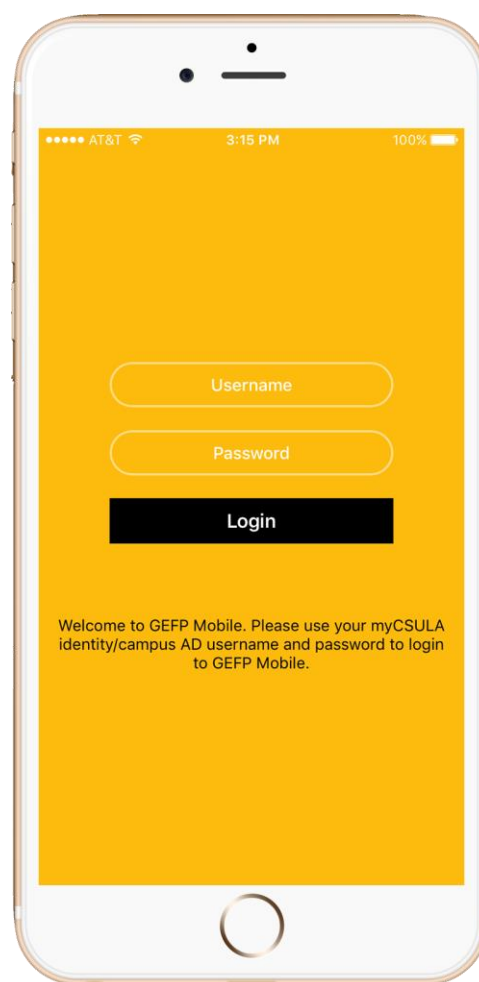


Figure 1) Login screen for GEFP-Mobile, developed by H. Gadhia.

Advisors can direct all students in the group to the convenient links to online resources. Another advantage of creating a mobile app version of the GEFP tool is that advisors could push out mobile alerts that pop up on advisees' home screen every time they open GEFP-mobile.

IMPLEMENTATION OF GEFP-MOBILE

The GEFP mobile app was developed for the iOS platform. It has all the functionality of GEFP-online [4] with the added benefit of being accessible on a smartphone, which most students and advisors in our College already own.

The login screen, as shown in Fig. 1, appears when the GEFP mobile app is launched. After logging in, the user is taken to the main home screen, as shown in Fig. 2, from which the user can navigate to different portions of her flight plan.

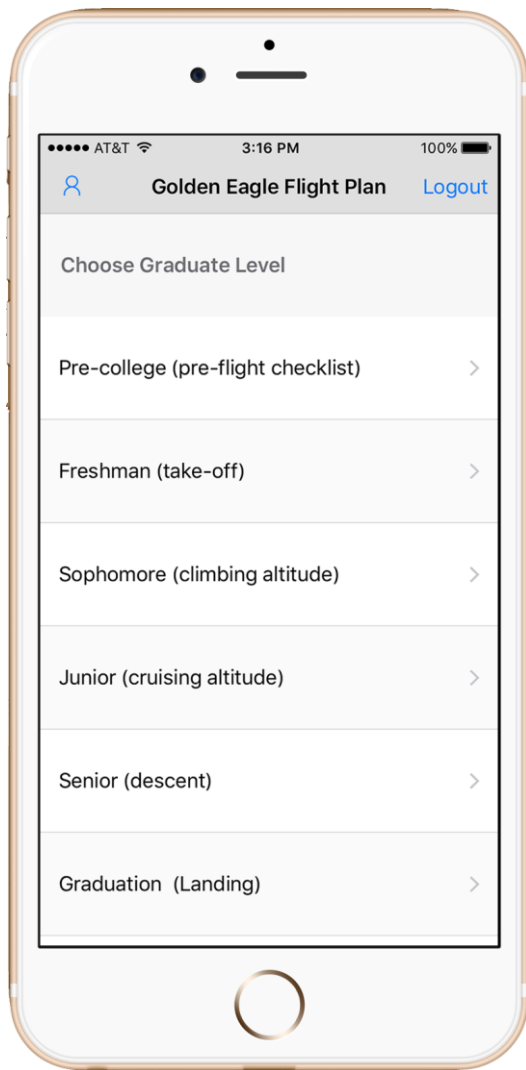


Figure 2) Home screen for GEFP-Mobile.

The user would select which flight stage and runway she wants to view. An example of the academic preparation runway during take-off is shown in Fig. 3. An example of a comment thread that can be associated with any selected milestone is shown in Fig. 4.

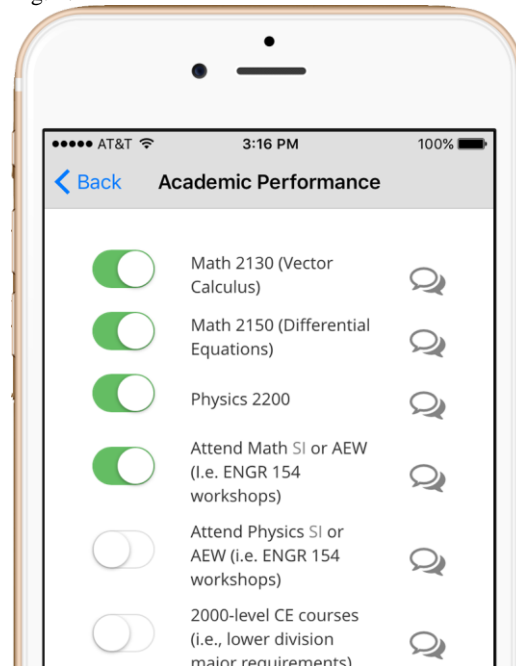


Figure 3) A sample academic performance runway during the freshman “take-off” flight stage. Milestones can be ticked off when completed. Comments can be left by advisors or advisees on any given milestone.

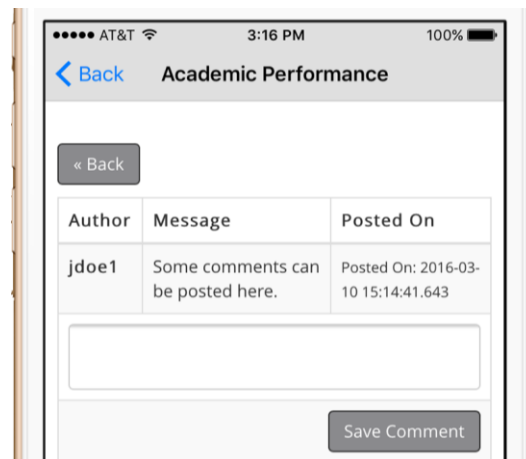


Figure 4) The comment feature allows advisees and advisors to write questions and comments to each other in a stored thread.

A template flight plan can be created for any major degree program. The profile page allows students to modify their major (see Fig. 5), and any overlapping milestones from their current flight plan would then be migrated to the new flight plan.

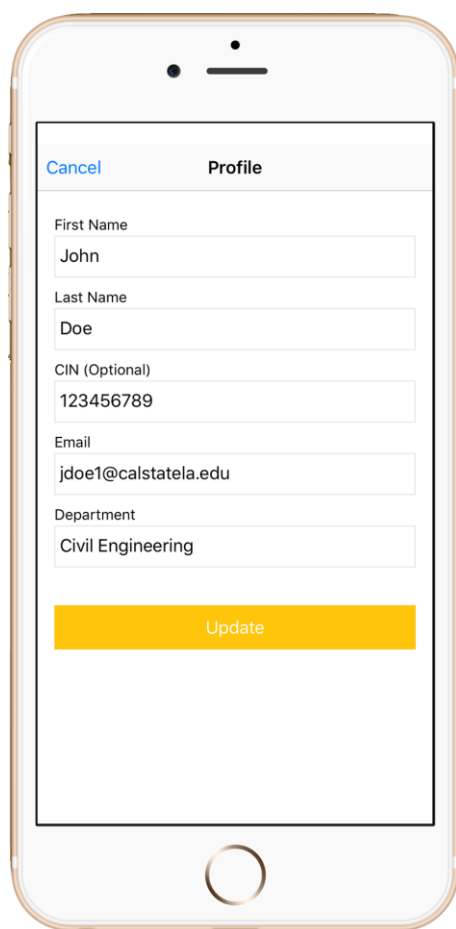


Figure 5) A sample profile page.

STRATEGIC USE OF GEFP-MOBILE

It is difficult enough to encourage students and advisors to engage in meaningful dialogue without having yet another advising tool to learn, another website to log into, or having to find another time to get to a computer. However, the GEFP-mobile app enables each user to have his flight plan literally at his fingertips. A possible model for group advisement would be to have each student in the group view her individual flight plan on the mobile app while the advisor is logged into the GEFP-online from a PC; students who do not own a smart phone can be loaned a tablet during the group advisement session, and can still view their GEFP online on their own outside of advising sessions.

Advisors can give general guidelines or announcements, but each student can be thinking about how these announcements apply to her own flight plan, given the milestones already completed. The student can make notes directly in relevant milestones as the advisor addresses the group as a whole or even while the advisor addresses another individual in the group. The student can navigate to online informational resources that are

directly linked to milestones on the GEFP. The GEFP keeps track of certain statistics, such as how many users have completed any given milestone. Thus, advisors can review this data relatively quickly once the advisement session is over, and can also look through comments, and decide who might need more personalized attention. We expect that the use of GEFP-mobile in this manner will encourage developmental advisement despite the traditionally less personal nature of group advisement.

ACKNOWLEDGMENT

The authors gratefully acknowledge support from the Leona B. Helmsely Charitable Trust. The authors would also like to thank Dean Emily Allen for her input on the design of the flight plan; and to the advisors in the ECST Advising Center, especially T. Fox, C. Marsh, and R. Ramirez, for their input and participation in piloting use of the GEFP.

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